Millimeter, Submillimeter, and Far-Infrared Detectors and Instrumentation for Astronomy V

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Jonas Zmuidzinas
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Contents

xxiii Conference Committee

xxv Unknowns and unknown unknowns: from dark sky to dark matter and dark energy (Plenary Paper) [7733-501]
Y. Suto, The Univ. of Tokyo (Japan)

xxxvii Optical synoptic telescopes: new science frontiers (Plenary Paper) [7733-502]
J. A. Tyson, Univ. of California, Davis (United States)

SESSION 1 CAMERAS I: CURRENT DIRECT DETECTION I

7741 02 CEA bolometer arrays: the first year in space [7741-01]
N. Billot, NASA Herschel Science Ctr. (United States); M. Sauvage, L. Rodriguez, B. Horeau, CEA, Lab. AIM, Irfu/SAp (France); C. Kiss, Konkoly Observatory (Hungary); H. Aussel, K. Okumura, O. Boulade, CEA, Lab. AIM, Irfu/SAp (France); B. Altiere, Herschel Science Ctr. (Spain); A. Poglitsch, Max-Planck-Institut für extraterrestrische Physik (Germany); P. Agnèse, CEA-LETI (France)

7741 06 Characterising the SCUBA-2 superconducting bolometer arrays [7741-05]
D. Bintley, Joint Astronomy Ctr. (United Kingdom); M. J. MacIntosh, UK Astronomy Technology Ctr. (United Kingdom); W. S. Holland, UK Astronomy Technology Ctr. (United Kingdom) and The Royal Observatory, Univ. of Edinburgh (United Kingdom); P. Friberg, C. Walther, Joint Astronomy Ctr. (United Kingdom); D. Atkinson, D. Kelly, X. Gao, UK Astronomy Technology Ctr. (United Kingdom); P. A. R. Ade, W. Grainger, J. House, L. Moncelsi, Cardiff Univ. (United Kingdom); M. I. Hollister, The Royal Observatory, Univ. of Edinburgh (United Kingdom) and California Institute of Technology (United States); A. Woodcraft, The Royal Observatory, Univ. of Edinburgh (United Kingdom); C. Dunare, W. Parkes, A. J. Walton, Scottish Microelectronics Ctr. (United Kingdom); K. D. Irwin, G. C. Hilton, M. Niemack, C. D. Reintsema, National Institute of Standards and Technology (United States); M. Amiri, B. Burger, M. Halpern, M. Hasselfield, The Univ. of British Columbia (Canada); J. Hill, J. B. Kycia, C. G. A. Mugford, L. Persaud, Univ. of Waterloo (Canada)

SESSION 2 CAMERAS I: CURRENT DIRECT DETECTION II

7741 08 Beginning of operation on APEX of the polarimeter for the Large APEX Bolometer Camera (LABOCA) [7741-07]
G. Siringo, European Southern Observatory (Chile); E. Kreysa, Max-Planck-Institut für Radioastronomie (Germany); A. Kovács, Univ. of Minnesota (United States); K. M. Menten, Max-Planck-Institut für Radioastronomie (Germany); J. Forbrich, Harvard-Smithsonian Ctr. for Astrophysics (United States)

7741 09 MKID multicolor array status and results from DemoCam [7741-08]
J. A. Schlaerth, Univ. of Colorado at Boulder (United States); N. G. Czakon, California Institute of Technology (United States); P. K. Day, Jet Propulsion Lab. (United States); T. P. Downes, R. Duan, California Institute of Technology (United States); J. Gao, National Institute of
SESSION 3 DETECTORS I: PHOTOCONDUCTOR ARRAYS

7741 0A Latest progress in developing large format Ge arrays for far-IR astronomy [7741-09]
J. Farhoomand, D. L. Sisson, TechnoScience Corp. (United States) and NASA Ames Research Ctr. (United States); J. W. Beeman, TechnoScience Corp. (United States) and Lawrence Berkeley National Lab. (United States)

7741 0B Development of a far-infrared Ge:Ga monolithic array for a possible application to SPICA [7741-10]
M. Shirahata, Japan Aerospace Exploration Agency (Japan); S. Kamiya, Japan Aerospace Exploration Agency (Japan) and The Univ. of Tokyo (Japan); S. Matsuura, Japan Aerospace Exploration Agency (Japan); M. Kawada, Japan Aerospace Exploration Agency (Japan) and Nagoya Univ. (Japan); Y. Sawayama, Y. Doi, The Univ. of Tokyo (Japan); T. Nakagawa, T. Wada, Japan Aerospace Exploration Agency (Japan); H. Kawada, Nagoya Univ. (Japan); Y. Creten, B. Okcan, IMEC (Belgium); W. Raab, A. Poglitsch, Max-Planck-Institut für extraterrestrische Physik (Germany)

SESSION 4 CAMERAS II: FUTURE DIRECT DETECTION

7741 0D Status of the ArTeMiS camera to be installed on APEX [7741-12]
M. Talvard, P. André, Y. Le-Pennec, E. Doumayrou, D. Dubreuil, M. Lortholary, J. Martignac, AIM Paris Saclay, CEA, CNRS, UP7 (France); C. De Breuck, European Southern Observatory (Germany); D. Rabanus, APEX Observatory (Chile); P. Agnèse, CEA, Grenoble, Léli, SLIR (France); O. Boulade, AIM Paris Saclay, CEA, CNRS, UP7 (France); E. Ercolani, CEA, Grenoble, Inac, SBT (France); P. Gallais, B. Horeau, P. O. Lagage, AIM Paris Saclay, CEA, CNRS, UP7 (France); B. Leriche, CNRS, ISAS, Univ. Paris XI (France); J. Relland, CEA, Saclay, Ifeu, SIS (France); V. Revéret, L. Rodriguez, AIM Paris Saclay, CEA, CNRS, UP7 (France)

7741 0E The balloon-borne large-aperture submillimeter telescope for polarimetry: BLAST-Pol [7741-13]
L. M. Fissel, Univ. of Toronto (Canada); P. A. R. Ade, Cardiff Univ. (United Kingdom); F. E. Angilè, Univ. of Pennsylvania (United States); S. J. Benton, Univ. of Toronto (Canada); E. L. Chapin, The Univ. of British Columbia (Canada); M. J. Devlin, Univ. of Pennsylvania (United States); N. N. Gandilo, Univ. of Toronto (Canada); J. O. Gundersen, Univ. of Miami (United States); P. C. Hargrave, Cardiff Univ. (United Kingdom); D. H. Hughes, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); J. Klein, Univ. of Pennsylvania (United States); A. L. Korotkov, Brown Univ. (United States); G. Marsden, The Univ. of British
MUSIC for sub/millimeter astrophysics [7741-15]

Department of Astronomy, Department of Physics, The University of Chicago, Chicago, Illinois 60637, USA (C. L. Kuo, Stanford University, Stanford, CA 94305, USA); and C. L. Kuo, Stanford University, Stanford, CA 94305, USA)

BASIC: a high-sensitivity all silicon bolometer focal plane for the SAFARI instrument aboard the SPICA Observatory [7741-16]

A. Orlando, R. W. Aikin, California Institute of Technology (United States); M. Amiri, The University of British Columbia (Canada); J. J. Bock, Jet Propulsion Lab. (United States) and California Institute of Technology (United States); J. A. Bonetti, I. B. Brevik, California Institute of Technology (United States); J. A. Brevik, California Institute of Technology (United States); B. Burger, The University of British Columbia (Canada); G. Chattopadhyay, P. K. Day, Jet Propulsion Lab. (United States); J. P. Filipppini, S. R. Golwala, California Institute of Technology (United States); M. Halpern, M. Hasselfield, The University of British Columbia (Canada); G. C. Hilton, K. D. Irwin, National Institute of Standards and Technology (United States); M. Kenyon, Jet Propulsion Lab. (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 (United States); A. E. Lange, California Institute of Technology (United States); H. G. LeDuc, N. Llombart, H. T. Nguyen, Jet Propulsion Lab. (United States); R. W. Ogbum, California Institute of Technology (United States); Stanford Univ. (United States), and Kavli Institute for Particle Astrophysics and Cosmology (United States); C. D. Reintsema, National Institute of Standards and Technology (United States); M. C. Runyan, California Institute of Technology (United States); Z. Staniszewski, Jet Propulsion Lab. (United States); R. Sudiwala,
A dual-polarized multichromatic antenna-coupled TES bolometer for terrestrial CMB Polarimetry [7741-19]
R. O'Brient, Univ. of California, Berkeley (United States); P. Ade, Cardiff Univ. (United States); K. Arnold, Univ. of California, Berkeley (United States); J. Edwards, Univ. of California, San Diego (United States); G. Engargiola, W. Holzapfel, Univ. of California, Berkeley (United States); A. T. Lee, Univ. of California, Berkeley (United States) and Space Sciences Lab. (United States); X. F. Meng, M. Myers, E. Quealy, Univ. of California, Berkeley (United States); G. Rebeiz, Univ. of California, San Diego (United States); P. Richards, A. Suzuki, Univ. of California, Berkeley (United States)

Low-noise transition edge sensor (TES) for SAFARI instrument on SPICA [7741-21]
P. Khosropanah, B. Dirks, SRON Netherlands Institute for Space Research (Netherlands); M. Parra-Borderías, Univ. de Zaragoza (Spain); M. Ridder, R. Hijmering, J. van der Kuur, L. Gottardi, M. Bruijn, M. Popescu, SRON Netherlands Institute for Space Research (Netherlands); J. R. Gao, SRON Netherlands Institute for Space Research (Netherlands) and Delft Univ. of Technology (Netherlands); H. Hoevers, SRON Netherlands Institute for Space Research (Netherlands)

SESSION 6 DETECTORS III: KINETIC INDUCTANCE DETECTORS

A review of the lumped element kinetic inductance detector [7741-22]
S. Doyle, P. Mauskopf, J. Zhang, Cardiff Univ. (United Kingdom); A. Monfardini, L. Swenson, Institut NEEL, CNRS (France); J. J. A. Baselmans, S. J. C. Yates, Space Research Institute of the Netherlands (Netherlands); M. Roesch, IRAM-Domaine de Grenoble (France)

Characterization of lumped element kinetic inductance detectors for mm-wave detection [7741-23]
M. Roesch, IRAM (France); A. Bideaud, A. Benoit, Institut NEEL, CNRS, Univ. Joseph Fourier (France); A. Cruciani, Institut NEEL, CNRS, Univ. Joseph Fourier (France) and Univ. di Roma La Sapienza (Italy); F. X. Désert, Observatoire de Grenoble (United States); S. Doyle, Cardiff Univ. (United Kingdom); S. Leclercq, F. Mattiocco, K. F. Schuster, IRAM (France); L. Swenson, A. Monfardini, Institut NEEL, CNRS, Univ. Joseph Fourier (France)

Fabrication of an absorber-coupled MKID detector and readout for sub-millimeter and far-infrared astronomy [7741-25]
A.-D. Brown, NASA Goddard Space Flight Ctr. (United States) and MEI Technologies, Inc. (United States); W.-T. Hsieh, S. H. Moseley, T. R. Stevenson, K. U-yen, E. J. Wollack, NASA Goddard Space Flight Ctr. (United States)
Optimization of MKID noise performance via readout technique for astronomical applications [7741-26]
N. G. Czakon, California Institute of Technology (United States); J. A. Schlaerth, Univ. of Colorado at Boulder (United States); P. K. Day, Jet Propulsion Lab. (United States); T. P. Downes, R. P. Duan, California Institute of Technology (United States); J. Gao, National Institute of Standards and Technology (United States); J. Glenn, Univ. of Colorado at Boulder (United States); S. R. Golwala, M. I. Hollister, California Institute of Technology (United States); H. G. LeDuc, Jet Propulsion Lab. (United States); B. A. Mazin, Univ. of California, Santa Barbara (United States); P. R. Maloney, Univ. of Colorado at Boulder (United States); O. Noroozian, California Institute of Technology (United States); H. T. Nguyen, J. Sayers, Jet Propulsion Lab. (United States); S. Siegel, California Institute of Technology (United States); J. E. Vaillancourt, Stratospheric Observatory for Infrared Astronomy (United States); A. Vayonakis, California Institute of Technology (United States); P. R. Wilson, Jet Propulsion Lab. (United States); J. Zmuidzinas, California Institute of Technology (United States)

Efficient optical modelling for far-infrared astronomical instrumentation [7741-27]
C. O'Sullivan, J. A. Murphy, N. Trappe, M. L. Gradziel, T. Peacocke, National Univ. of Ireland, Maynooth (Ireland); S. Withington, Cavendish Lab. (United Kingdom)

Anti-reflection coating of large-format lenses for sub-mm applications [7741-28]
P. C. Hargrave, Cardiff Univ. (United Kingdom); G. Savini, Univ. College London (United Kingdom)

Corrugated silicon platelet feed horn array for CMB polarimetry at 150 GHz [7741-29]

Submillimeter pupil-plane wavefront sensing [7741-30]
E. Serabyn, J. K. Wallace, Jet Propulsion Lab. (United States)

Optical performance of the BICEP2 Telescope at the South Pole [7741-31]
R. W. Aikin, California Institute of Technology (United States); P. A. Ade, Cardiff Univ. (United Kingdom); S. Benton, Univ. of Toronto (Canada); J. J. Bock, California Institute of Technology (United States) and Jet Propulsion Lab. (United States); J. A. Bonetti, Jet Propulsion Lab. (United States); J. A. Brevik, California Institute of Technology (United States); C. D. Dowell, California Institute of Technology (United States) and Jet Propulsion Lab. (United States); L. Duband, Commissariat à l’Énergie Atomique (France); J. P. Filippini, S. R. Golwala, California Institute of Technology (United States); M. Halpern, The Univ. of British Columbia (Canada); V. V. Hristov, California Institute of Technology (United States); K. Irwin, National Institute of Standards and Technology (United States); J. P. Kaufman, B. G. Keating, Univ. of California, San Diego (United States); J. M. Kovac, Harvard Univ. (United States); C. L. Kuo, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics and Cosmology (United States); A. E. Lange, California Institute of Technology (United States); C. B. Netterfield, Univ. of Toronto (Canada); H. T. Nguyen, California Institute of Technology (United States); R. W. Ogburn IV, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics and Cosmology (United States); A. Orlando, California Institute of Technology (United States); C. Pryke, The Univ. of Chicago (United States) and Univ. of Minnesota (United States); S. Richter, California Institute of Technology (United States); J. E. Ruhl, Case
Optics for MUSIC: a new (sub)millimeter camera for the Caltech Submillimeter Observatory

J. Sayers, Jet Propulsion Lab. (United States); N. G. Czakon, California Institute of Technology (United States); P. K. Day, Jet Propulsion Lab. (United States); T. P. Downes, R. P. Duan, California Institute of Technology (United States); J. Gao, National Institute of Standards and Technology (United States); J. Glenn, Univ. of Colorado at Boulder (United States); S. R. Golwala, M. I. Hollister, California Institute of Technology (United States); H. G. LeDuc, Jet Propulsion Lab. (United States); B. A. Mazin, Univ. of California, Santa Barbara (United States); P. R. Maloney, Univ. of Colorado at Boulder (United States); O. Noroozian, California Institute of Technology (United States); H. T. Nguyen, Jet Propulsion Lab. (United States); J. A. Schlaerth, Univ. of Colorado at Boulder (United States); S. Siegel, California Institute of Technology (United States); J. E. Vaillancourt, Stratospheric Observatory for Infrared Astronomy (United States); A. Vayonakis, California Institute of Technology (United States); P. R. Wilson, Jet Propulsion Lab. (United States); J. Zmuidzinas, California Institute of Technology (United States)

Test and integration results from SuperCam: a 64-pixel array receiver for the 350 GHz atmospheric window [7741-33]

C. Groppi, Arizona State Univ. (United States); C. Walker, C. Kulesa, D. Golish, J. Kloosterman, Steward Observatory, The Univ. of Arizona (United States); S. Weinreb, G. Jones, J. Bardin, H. Mani, California Institute of Technology (United States); T. Kuiper, Jet Propulsion Lab. (United States); J. Kooi, California Institute of Technology (United States); A. Lichtenberger, T. Cecil, Univ. of Virginia (United States); P. Puetz, Univ. of Cologne (Germany); G. Narayanan, Univ. of Massachusetts Amherst (United States); A. Hedden, Harvard-Smithsonian Ctr. for Astrophysics (United States)

ZEUS-2: a second generation submillimeter grating spectrometer for exploring distant galaxies [7741-34]

C. Ferkinhoff, T. Nikola, S. C. Parshley, G. J. Stacey, Cornell Univ. (United States); K. D. Irwin, H.-M. Cho, NIST Boulder (United States); M. Halpern, The Univ. of British Columbia (Canada)

Large format heterodyne arrays for observing far-infrared lines with SOFIA [7741-35]

C. Walker, C. Kulesa, J. Kloosterman, D. Lesser, T. Coftman, Steward Observatory, The Univ. of Arizona (United States); C. Groppi, Arizona State Univ. (United States); J. Zmuidzinas, M. Edgar, S. Radford, California Institute of Technology (United States); P. Goldsmith, W. Langer, H. Yorke, J. Kawamura, I. Mehdi, Jet Propulsion Lab. (United States); D. Hollenbach, SETI Institute (United States); J. Stutzki, Univ. of Cologne (Germany); H. Huebers, DLR (Germany); J. R. Gao, Delft Univ. of Technology (Netherlands); C. Martin, Oberlin College (United States)
### SESSION 9  DETECTORS IV: SIS MIXERS, LOCAL OSCILLATORS

<table>
<thead>
<tr>
<th>Paper Number</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>7741 10</td>
<td>A 700 GHz unilateral finline SIS mixer fed by a multi-flare angle smooth-walled horn [7741-36]</td>
<td>B.-K. Tan, G. Yassin, P. Grimes, J. Leech, Univ. of Oxford (United Kingdom); K. Jacobs, Univ. of Cologne (Germany); S. Withington, Cavendish Lab. (United Kingdom); M. Tacon, Univ. of Oxford (United Kingdom); C. Groppi, Arizona State Univ. (United States)</td>
</tr>
<tr>
<td>7741 11</td>
<td>Toward a compact THz local oscillator based on a quantum-cascade laser [7741-37]</td>
<td>H. Richter, M. Greiner-Bär, S. G. Pavlov, A. D. Semenov, German Aerospace Ctr. (Germany); M. Wienold, L. Schrottke, M. Giehler, R. Hey, H. T. Grahn, Paul-Drude-Institut für Festkörperlelektronik (Germany); H.-W. Hübers, German Aerospace Ctr. (Germany) and Technische Univ. Berlin (Germany)</td>
</tr>
</tbody>
</table>

### SESSION 10  DETECTORS V: SIS MIXERS, LOCAL OSCILLATORS

<table>
<thead>
<tr>
<th>Paper Number</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>7741 12</td>
<td>High power local oscillator sources for 1-2 THz [7741-38]</td>
<td>I. Mehdi, B. Thomas, R. Lin, Jet Propulsion Lab. (United States); A. Maestrini, Observatoire de Paris, Univ. Pierre et Marie Curie-Paris 6 (France); J. Ward, E. Schlecht, J. Gill, C. Lee, G. Chattopadhyay, F. Maiwald, Jet Propulsion Lab. (United States)</td>
</tr>
<tr>
<td>7741 15</td>
<td>Terahertz traveling wave tube amplifiers as high-power local oscillators for large heterodyne receiver arrays [7741-41]</td>
<td>C. Y. Drouet d'Aubigny, TeraVision Inc. (United States); C. K. Walker, Steward Observatory, The Univ. of Arizona (United States); A. G. Young, TeraVision Inc. (United States); P. Gensheimer, Steward Observatory, The Univ. of Arizona (United States); D. R. Golish, TeraVision Inc. (United States); C. E. Groppi, Arizona State Univ. (United States)</td>
</tr>
<tr>
<td>7741 16</td>
<td>Ultra-broadband IF/LO system of NTU W-band interferometer array [7741-42]</td>
<td>H.-F. Teng, J.-C. Wu, H.-H. Li, T.-H. Chiueh, National Taiwan Univ. (Taiwan); D.-C. Niu, Chung-Shang Institute of Science and Technology (Taiwan); R. Hu, National Chiao-Tung Univ. (Taiwan)</td>
</tr>
</tbody>
</table>

### SESSION 11  DETECTORS VI: HOT AND COLD ELECTRON BOLOMETERS

<table>
<thead>
<tr>
<th>Paper Number</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>7741 18</td>
<td>Heterodyne gas cell measurements at 2.9 THz using a quantum cascade laser as local oscillator [7741-44]</td>
<td>Y. Ren, Delft Univ. of Technology (Netherlands), Purple Mountain Observatory (China), and China Graduate School (China); J. R. Gao, Delft Univ. of Technology (Netherlands) and SRON Netherlands Institute for Space Research (Netherlands); J. N. Hovenier, Delft Univ. of Technology (Netherlands); R. Higgins, National Univ. of Ireland (Ireland); W. Zhang, Purple Mountain Observatory (China); A. Bell, B. Klein, Max-Planck-Institut für Radioastronomie (Germany); T. M. Klapwijk, Delft Univ. of Technology (Netherlands); S. C. Shi, Purple Mountain Observatory (China); T.-Y. Kao, S. Kumar, Q. Hu, Massachusetts Institute of Technology (United States); J. L. Reno, Sandia National Labs. (United States)</td>
</tr>
</tbody>
</table>
**Development of the nano-HEB array for low-background far-IR applications** [7741-45]
B. S. Karasik, S. V. Pereverzev, Jet Propulsion Lab. (United States); D. Olaya, National Institute of Standards and Technology (United States); M. E. Gershenson, Rutgers Univ. (United States); R. Cantor, STAR Cryoelectronics (United States); J. H. Kawamura, P. K. Day, B. Bumble, H. G. LeDuc, S. P. Monacos, D. G. Harding, Jet Propulsion Lab. (United States); D. Santavicca, F. Carter, D. E. Prober, Yale Univ. (United States)

**Finline-integrated cold electron bolometer** [7741-46]
E. Otto, Oxford Univ. (United Kingdom); M. Tarasov, Chalmers Univ. of Technology (Sweden) and Kotel’nikov Institute of Radio Engineering and Electronics (Russian Federation); P. K. Grimes, Oxford Univ. (United Kingdom); N. S. Kauropa, Chalmers Univ. of Technology (Sweden) and Moscow State Pedagogical Univ. (Russian Federation); H. Kuusisto, L. S. Kuzmin, Chalmers Univ. of Technology (Sweden); G. Yassin, Oxford Univ. (United Kingdom)

**NbN hot electron bolometer mixer at 5.3 THz** [7741-47]
W. Zhang, SRON Netherlands Institute for Space Research (Netherlands) and Purple Mountain Observatory (China); J. R. Gao, SRON Netherlands Institute for Space Research (Netherlands) and Delft Univ. of Technology (Netherlands); P. Khosropanah, SRON Netherlands Institute for Space Research (Netherlands); T. Bansal, SRON Netherlands Institute for Space Research (Netherlands) and Delft Univ. of Technology (Netherlands); T. M. Klapwijk, Delft Univ. of Technology (Netherlands); W. Miao, S. C. Shi, Purple Mountain Observatory (China)

**SESSION 12 CMB INSTRUMENTS I: CURRENT AND NEAR TERM I**

**EBEX: a balloon-borne CMB polarization experiment** [7741-48]
B. Reichborn-Kjennerud, Columbia Univ. (United States); A. M. Aboobaker, Univ. of Minnesota (United States); P. Ade, Cardiff Univ. (United Kingdom); F. Aubin, McGill Univ. (Canada); C. Baccigalupi, Scuola Internazionale Superiore di Studi Avanzati (Italy); C. Bao, Univ. of Minnesota (United States); J. Borrill, C. Cantalupo, Lawrence Berkeley National Lab. (United States); D. Chapman, J. Didier, Columbia Univ. (United States); M. Dobbs, McGill Univ. (Canada); J. Grain, Univ. Paris-Sud (France); W. Grainger, Cardiff Univ. (United Kingdom); S. Hanany, Univ. of Minnesota (United States); S. Hillbrand, Columbia Univ. (United States); J. Hubmayr, National Institute of Standards and Technology (United States); V. A. Jaffe, Imperial College London (United Kingdom); B. Johnson, Univ. of California, Berkeley (United States); T. Jones, Univ. of Minnesota (United States); T. Kisner, Lawrence Berkeley National Lab. (United States); J. Klein, Univ. of Minnesota (United States); A. Korotkov, Brown Univ. (United States); S. Leach, Scuola Internazionale Superiore di Studi Avanzati (Italy); A. Lee, Univ. of California, Berkeley (United States); L. Levinson, Weizmann Institute of Science (Israel); M. Limon, Columbia Univ. (United States); K. MacDermid, McGill Univ. (Canada); T. Matsumura, California Institute of Technology (United States); X. Meng, Univ. of California, Berkeley (United States); A. Miller, Columbia Univ. (United States); M. Milligan, Univ. of Minnesota (United States); E. Pascale, Cardiff Univ. (United Kingdom); D. Polsgrove, Univ. of Minnesota (United States); N. Ponthieu, Univ. Paris-Sud (France); K. Raach, I. Sagiv, Univ. of Minnesota (United States); G. Smecher, McGill Univ. (Canada); F. Stivoli, Univ. Paris Sud France; R. Stompor, Lab. d’Astroparticule et Cosmologie, CNRS, Univ. Paris Diderot (France); H. Tran, Univ. of California, Berkeley (United States); M. Tristram, Lab. de l’Accélérateur Linéaire, CNRS, Univ. Paris Sud (France); G. S. Tucker, Y. Vinokurov, Brown Univ. (United States); A. Yadav, M. Zaldarriaga, Institute for Advanced Study (United States); K. Zilic, Univ. of Minnesota (United States)
Q/U Imaging Experiment (QUIET): a ground-based probe of cosmic microwave background polarization [7741-49]
I. Buder, Univ. of Chicago (United States)

The POLARBEAR CMB polarization experiment [7741-50]
K. Arnold, Univ. of California, Berkeley (United States); P. A. R. Ade, Univ. of Cardiff (United Kingdom); A. E. Anthony, Univ. of Colorado (United States); F. Aubin, 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); C. Cantalupo, Lawrence Berkeley National Lab. (United States); M. A. Dobbs, McGill Univ. (Canada); J. Errard, Lab. Astroparticule et Cosmologie. Univ. Paris 7 (France); D. Flanigan, A. Ghiabi, Univ. of California, Berkeley (United States); N. Halverson, Univ. of Colorado (United States); M. Hazumi, High Energy Accelerator Research Organization (Japan); W. L. Holzapfel, J. Howard, Univ. of California, Berkeley (United States); P. Hyland, McGill Univ. (Canada); A. Jaffe, Imperial College (United Kingdom); B. Keating, Univ. of California, San Diego (United States); T. Kisner, Lawrence Berkeley National Lab. (United States); Z. Kermish, Univ. of California, Berkeley (United States); A. T. Lee, Univ. of California, Berkeley (United States) and Lawrence Berkeley National Lab. (United States); E. Linder, Lawrence Berkeley National Lab. (United States); M. Lungu, Univ. of California, Berkeley (United States); T. Matsumura, High Energy Accelerator Research Organization (Japan); N. Miller, Univ. of California, San Diego (United States); X. Meng, M. Myers, Univ. of California, Berkeley (United States); H. Nishino, High Energy Accelerator Research Organization (Japan); R. O'Brien, Univ. of California, Berkeley (United States); D. O'Dea, Imperial College (United Kingdom); D. O’Dea, Imperial College (United Kingdom); C. Reichardt, Univ. of California, Berkeley (United States); I. Schanning, Univ. of California, San Diego (United States); A. Shimizu, High Energy Accelerator Research Organization (Japan); C. Shimmin, Univ. of California, Berkeley (United States); M. Shimon, Univ. of California, San Diego (United States); H. Spieler, Lawrence Berkeley National Lab. (United States); B. Steinbach, Univ. of California, Berkeley (United States); R. Stompor, Lab. Astroparticule et Cosmologie. Univ. Paris 7 (France); A. Suzuki, Univ. of California, Berkeley (United States); T. Tomaru, High Energy Accelerator Research Organization (Japan); H. T. Tran, Univ. of California, Berkeley (United States); C. Tucker, Univ. of Cardiff (United Kingdom); E. Quealy, P. L. Richards, Univ. of California, Berkeley (United States); O. Zahn, Univ. of California, Berkeley (United States) and Lawrence Berkeley National Lab. (United States)

The BICEP2 CMB polarization experiment [7741-52]
R. W. Ogilvie IV, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics and Cosmology (United States); P. A. R. Ade, Cardiff Univ. (United Kingdom); R. W. Akin, California Institute of Technology (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); J. A. Bonetti, Jet Propulsion Lab. (United States) and California Institute of Technology (United States); J. A. Brevik, California Institute of Technology (United States); B. Burger, The Univ. of British Columbia (Canada); C. D. Dowell, California Institute of Technology (United States); L. Duband, Service des Bases Temperature, DRFMC, CEA-Grenoble (France); J. P. Filippini, S. R. Golwala, California Institute of Technology (United States); M. Halpern, M. Hasselfield, The Univ. of British Columbia (Canada); G. Hilton, National Institute of Standards and Technology (United States); V. V. Hristov, California Institute of Technology (United States); K. Irwin, National Institute of Standards and Technology (United States); J. P. Kaufman, B. G. Keating, Univ. of California, San Diego (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 (United States); A. E. Lange, California Institute of Technology (United States); E. M. Leitch, Univ. of Chicago (United States); C. B. Netterfield, Univ. of Toronto (Canada);
SESSION 13 CMB INSTRUMENTS I: CURRENT AND NEAR TERM II

7741 1H Initial performance of the BICEP2 antenna-coupled superconducting bolometers at the South Pole [7741-53]
J. A. Brevik, R. W. Aikin, California Institute of Technology (United States); M. Amiri, The Univ. of British Columbia (Canada); S. J. Benton, Univ. of Toronto (Canada); J. J. Bock, Jet Propulsion Lab. (United States) and California Institute of Technology (United States); J. A. Bonetti, Jet Propulsion Lab. (United States); B. Burger, The Univ. of British Columbia (Canada); C. D. Dowell, Jet Propulsion Lab. (United States) and California Institute of Technology (United States); L. Duband, Service des Basses Temperatures, DRFMC, CEA-Grenoble (France); J. P. Filippini, S. R. Golwala, California Institute of Technology (United States); G. Hilton, National Institute of Standards and Technology (United States); J. P. Kaufman, B. G. Keating, Univ. of California, San Diego (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 (United States); A. E. Lange, California Institute of Technology (United States); E. M. Leitch, The Univ. of Chicago (United States); C. B. Netterfield, Univ. of Toronto (Canada); H. T. Nguyen, Jet Propulsion Lab. (United States) and California Institute of Technology (United States); R. W. Ogburn IV, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics and Cosmology (United States); A. Orlando, California Institute of Technology (United States) and Jet Propulsion Lab. (United States); C. Pryke, Univ. of Minnesota (United States); C. Reintsema, National Institute of Standards and Technology (United States); S. Richter, Harvard-Smithsonian Ctr. for Astrophysics (United States); J. E. Ruhl, Case Western Reserve Univ. (United States); M. Runyan, California Institute of Technology (United States); C. Sheehy, The Univ. of Chicago (United States) and Univ. of Minnesota (United States); Z. Staniszewski, California Institute of Technology (United States) and Jet Propulsion Lab. (United States); R. Sudiwala, Univ. of Wales (United Kingdom); J. E. Tolan, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics and Cosmology (United States); A. D. Turner, P. Wilson, Jet Propulsion Lab. (United States); C. L. Wong, Harvard-Smithsonian Ctr. for Astrophysics (United States)

7741 1I The C-Band All-Sky Survey: instrument design, status, and first-look data [7741-54]
O. G. King, California Institute of Technology (United States); C. Copley, Univ. of Oxford (United Kingdom) and Hartebeesthoek Radio Astronomy Observatory (United Kingdom); R. Davies, R. Davis, C. Dickinson, Univ. of Manchester (United Kingdom); Y. A. Hafez, KACST (Saudi Arabia); C. Holler, Hochschule Esslingen (Germany); J. J. John, Univ. of Oxford (United Kingdom); A. G. King, J. M. Kovac, Harvard-Smithsonian Ctr. for Astrophysics (United States); H. T. Nguyen, Jet Propulsion Lab. (United States); A. Orlando, California Institute of Technology (United States); C. Pryke, The Univ. of Chicago (United States); C. Reintsema, National Institute of Standards and Technology (United States); S. Richter, Harvard-Smithsonian Ctr. for Astrophysics (United States); J. E. Ruhl, Case Western Reserve Univ. (United States); M. Runyan, California Institute of Technology (United States); C. Sheehy, The Univ. of Chicago (United States) and Univ. of Minnesota (United States); Z. Staniszewski, California Institute of Technology (United States) and Jet Propulsion Lab. (United States); R. Sudiwala, Univ. of Wales (United Kingdom); J. E. Tolan, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics and Cosmology (United States); A. D. Turner, P. Wilson, Jet Propulsion Lab. (United States); C. L. Wong, Harvard-Smithsonian Ctr. for Astrophysics (United States)

H. T. Nguyen, Jet Propulsion Lab. (United States); A. Orlando, California Institute of Technology (United States); C. L. Pryke, The Univ. of Chicago (United States); C. Reintsema, National Institute of Standards and Technology (United States); S. Richter, Harvard-Smithsonian Ctr. for Astrophysics (United States); J. E. Ruhl, Case Western Reserve Univ. (United States); M. C. Runyan, California Institute of Technology (United States); C. D. Sheehy, The Univ. of Chicago (United States) and Univ. of Minnesota (United States); Z. K. Staniszewski, California Institute of Technology (United States); S. A. Stokes, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics and Cosmology (United States); J. E. Tolan, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics and Cosmology (United States); A. D. Turner, P. Wilson, Jet Propulsion Lab. (United States); C. L. Wong, Harvard-Smithsonian Ctr. for Astrophysics (United States)
SESSION 14  CRYO-MECHANICAL DESIGN

7741 1K  SCUBA-2: engineering and commissioning challenges of the world’s largest sub-mm instrument at the JCMT [7741-105]
S. C. Craig, Joint Astronomy Ctr. (United States); H. M. McGregor, E. Atad-Ettedgui, D. Montgomery, UK Astronomy Technology Ctr. (United Kingdom); D. Bintley, T. C. Chuter, Joint Astronomy Ctr. (United States); W. S. Holland, D. W. Lunney, M. J. Macintosh, UK Astronomy Technology Ctr. (United Kingdom); E. Starman, J. G. Webb, Joint Astronomy Ctr. (United States)

7741 1L  The cryomechanical design of MUSIC: a novel imaging instrument for millimeter-wave astrophysics at the Caltech Submillimeter Observatory [7741-56]
M. I. Hollister, N. G. Czakon, California Institute of Technology (United States); P. K. Day, Jet Propulsion Lab. (United States); T. P. Downes, R. Duan, California Institute of Technology (United States); J. Gao, National Institute of Standards and Technology (United States); J. Glenn, Univ. of Colorado at Boulder (United States); S. R. Golwala, California Institute of Technology (United States); H. G. LeDuc, Jet Propulsion Lab. (United States); P. R. Maloney, Univ. of Colorado at Boulder (United States); B. A. Mazin, Univ. of California, Santa Barbara (United States); H. T. Nguyen, Jet Propulsion Lab. (United States); O. Noroozian, California Institute of Technology (United States); J. Sayers, Jet Propulsion Lab. (United States); J. Schlaerth, Univ. of Colorado at Boulder (United States); S. Siegel, California Institute of Technology (United States); A. Vayonakis, California Institute of Technology (United States); P. Wilson, Jet Propulsion Lab. (United States); J. M. Zmuidzinas, California Institute of Technology (United States)

7741 1M  Thermal architecture for the SPIDER flight cryostat [7741-57]
J. E. Gudmundsson, Princeton Univ. (United States); P. A. R. Ade, Cardiff Univ. (United Kingdom); M. Amiri, The Univ. of British Columbia (Canada); S. J. Benton, Univ. of Toronto (Canada); R. Bihary, Case Western Reserve Univ. (United States); J. J. Bock, Jet Propulsion Lab. (United States) and California Institute of Technology (United States); J. R. Bond, Univ. of Toronto (Canada); J. A. Bonetti, Jet Propulsion Lab. (United States); S. A. Bryan, Case Western Reserve Univ. (United States); B. Burger, The Univ. of British Columbia (Canada); H. C. Chiang, Princeton Univ. (United States); C. R. Contaldi, Imperial College London (United Kingdom); B. P. Crill, O. Doré, Jet Propulsion Lab. (United States) and California Institute of Technology (United States); M. Farhang, Univ. of Toronto (Canada); J. Filippini, California Institute of Technology (United States); L. M. Fissel, N. N. Gandilo, Univ. of Toronto (Canada); S. R. Golwala, California Institute of Technology (United States); M. Halpern, M. Hasselfield, The Univ. of British Columbia (Canada); G. Hilton, National Institute of Standards and Technology (United States); W. Holmes, Jet Propulsion Lab. (United States); V. V. Hristov, California Institute of Technology (United States); K. D. Irwin, National Institute of Standards and Technology (United States); W. C. Jones, Princeton Univ. (United States); C. L. Kuo, Stanford Univ. (United States); C. J. MacTavish, Univ. of Cambridge (United Kingdom); P. V. Mason, California Institute of Technology (United States); T. E. Montroy, Case Western Reserve Univ. (Canada); T. A. Morford, California Institute of Technology (United States); C. B. Netterfield, Univ. of Toronto (Canada); D. T. O’Dea, Imperial College London (United Kingdom)
SESSION 15  CMB INSTRUMENTS II: LONGER TERM

7741 IN  SPIDER: a balloon-borne CMB polarimeter for large angular scales [7741-58]
J. P. Filippini, California Institute of Technology (United States); P. A. R. Ade, Cardiff Univ. (United Kingdom); M. Amiri, The Univ. of British Columbia (Canada); S. J. Benton, Univ. of Toronto (Canada); R. Bihary, Case Western Reserve Univ. (United States); J. J. Bock, California Institute of Technology (United States) and Jet Propulsion Lab. (United States); J. R. Bond, Univ. of Toronto (Canada); J. A. Bonetti, Jet Propulsion Lab. (United States); S. A. Bryan, Case Western Reserve Univ. (United States); B. Burger, The Univ. of British Columbia (Canada); H. C. Chiang, Princeton Univ. (United States); C. R. Contaldi, Imperial College London (United Kingdom); B. P. Crill, O. Doré, California Institute of Technology (United States) and Jet Propulsion Lab. (United States); M. Farhang, L. M. Fissel, N. N. Gandilo, Univ. of Toronto (Canada); S. R. Golwala, California Institute of Technology (United States); J. E. Gudmundsson, Princeton Univ. (United States); M. Halpern, M. Hasselfield, The Univ. of British Columbia (Canada); G. Hilton, National Institute of Standards and Technology (United States); W. Holmes, Jet Propulsion Lab. (United States); V. V. Hristov, California Institute of Technology (United States); K. D. Irwin, National Institute of Standards and Technology (United States); W. C. Jones, Princeton Univ. (United States); C. L. Kuo, Stanford Univ. (United States); C. J. MacTavish, Imperial College London (United Kingdom); P. V. Mason, California Institute of Technology (United States); T. E. Montroy, Case Western Reserve Univ. (United States); T. A. Morford, California Institute of Technology (United States); C. B. Netterfield, Univ. of Toronto (Canada); D. T. O'Dea, Imperial College London (United Kingdom); A. S. Rahlin, Princeton Univ. (United States); C. D. Reintsema, National Institute of Standards and Technology (United States); J. E. Ruhl, Case Western Reserve Univ. (United States); M. C. Runyan, M. A. Schenker, California Institute of Technology (United States); J. A. Shariff, J. D. Soler, Univ. of Toronto (Canada); A. Trangsrud, California Institute of Technology (United States); C. Tucker, Imperial College London (United Kingdom); R. S. Tucker, California Institute of Technology (United States); A. D. Turner, Jet Propulsion Lab. (United States)

7741 IO  Design and performance of the SPIDER instrument [7741-59]
M. C. Runyan, California Institute of Technology (United States); P. A. R. Ade, Cardiff Univ. (United Kingdom); M. Amiri, The Univ. of British Columbia (Canada); S. Benton, Univ. of Toronto (Canada); R. Bihary, Case Western Reserve Univ. (United States); J. J. Bock, California Institute of Technology (United States) and Jet Propulsion Lab. (United States); J. R. Bond, Univ. of Toronto (Canada); J. A. Bonetti, Jet Propulsion Lab. (United States); S. A. Bryan, Case Western Reserve Univ. (United States); H. C. Chiang, Princeton Univ. (United States); C. R. Contaldi, Imperial College London (United Kingdom); B. P. Crill, O. Doré, California Institute of Technology (United States) and Jet Propulsion Lab. (United States); D. O'Dea, Imperial College London (United Kingdom); M. Farhang, Univ. of Toronto (Canada); J. P. Filippini, California Institute of Technology (United States); L. Fissel, N. Gandilo, Univ. of Toronto (Canada); S. R. Golwala, California Institute of Technology (United States); J. E. Gudmundsson, Princeton Univ. (United States); M. Halpern, M. Hasselfield, M. Halpern, The Univ. of British Columbia (Canada); G. Hilton, National Institute of Standards
The Primordial Inflation Polarization Explorer (PIPER) [7741-60]
D. T. Chuss, NASA Goddard Space Flight Ctr. (United States); P. A. R. Ade, Cardiff Univ. (United Kingdom); D. J. Benford, NASA Goddard Space Flight Ctr. (United States); C. L. Bennett, The Johns Hopkins Univ. (United States); J. L. Dotson, NASA Ames Research Ctr. (United States); J. R. Eimer, The 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, G. Hinshaw, NASA Goddard Space Flight Ctr. (United States); K. Irwin, National Institute of Standards and Technology (United States); M. L. Jackson, M. A. Jah, NASA Goddard Space Flight Ctr. (United States); N. Jethava, NASA Goddard Space Flight Ctr. (United States) and Global Systems Technology (United States); C. Jhabvala, A. J. Kogut, L. Lowe, NASA Goddard Space Flight Ctr. (United States); N. McCullagh, The Johns Hopkins Univ. (United States); T. Miller, P. Mirel, S. H. Moseley, S. Rodriguez, K. Rostem, NASA Goddard Space Flight Ctr. (United States); E. Sharp, NASA Goddard Space Flight Ctr. (United States) and Global Systems Technology (United States); J. G. Staguhn, NASA Goddard Space Flight Ctr. (United States) and The Johns Hopkins Univ. (United States); C. E. Tucker, Cardiff Univ. (United Kingdom); G. M. Voellmer, E. J. Wollack, NASA Goddard Space Flight Ctr. (United States); L. Zeng, The Johns Hopkins Univ. (United States)

5,120 superconducting bolometers for the PIPER balloon-borne CMB polarization experiment [7741-61]
D. J. Benford, D. T. Chuss, NASA Goddard Space Flight Ctr. (United States); G. C. Hilton, K. D. Irwin, National Institute of Standards and Technology (United States); N. S. Jethava, NASA Goddard Space Flight Ctr. (United States) and Global Science & Technology (United States); C. A. Jhabvala, A. J. Kogut, NASA Goddard Space Flight Ctr. (United States); T. M. Miller, NASA Goddard Space Flight Ctr. (United States) and MEI Technologies, Maryland (United States); P. Mirel, NASA Goddard Space Flight Ctr. (United States) and Wyle Information Systems (United States); S. H. Moseley, NASA Goddard Space Flight Ctr. (United States); K. Rostem, NASA Goddard Space Flight Ctr. (United States) and Oak Ridge Associated Universities (United States); E. H. Sharp, NASA Goddard Space Flight Ctr. (United States) and Global Science & Technology (United States); J. G. Staguhn, NASA Goddard Space Flight Ctr. (United States) and Johns Hopkins Univ. (United States); G. M. Stiehl, National Institute of Standards and Technology (United States); G. M. Voellmer, E. J. Wollack, NASA Goddard Space Flight Ctr. (United States)

The Keck Array: a pulse tube cooled CMB polarimeter [7741-62]
C. D. Sheehy, The Univ. of Chicago (United States) and Univ. of Minnesota (United States); P. A. R. Ade, Univ. of Wales (United Kingdom); R. W. Aikin, California Institute of Technology (United States); M. Amiri, The Univ. of British Columbia (Canada); S. Benton, Univ. of Toronto
ACTPol: a polarization-sensitive receiver for the Atacama Cosmology Telescope [7741-63]

M. D. Niemack, National Institute of Standards and Technology (United States); P. A. R. Ade, Cardiff Univ. (United States); J. Aguirre, Univ. of Pennsylvania (United States); F. Barrientos, Pontificia Univ. Católica (Chile); J. A. Beall, National Institute of Standards and Technology (United States); J. R. Bond, Univ. of Toronto (Canada); J. Britton, H. M. Cho, National Institute of Standards and Technology (United States); S. Das, Univ. of California, Berkeley (United States); M. J. Devlin, D. Dicker, Univ. of Pennsylvania (United States); J. Dunkley, Oxford Univ. (United Kingdom); R. Dünner, Pontificia Univ. Católica (Chile); J. W. Fowler, Princeton Univ. (United States); A. Hajian, Univ. of Toronto (Canada); M. Halpern, M. Hasselfield, Univ. of British Columbia (United States); G. Hilton, Univ. of KwaZulu-Natal (South Africa); J. Hubmayr, National Institute of Standards and Technology (United States); J. P. Hughes, Rutgers Univ. (United States); L. Infante, Pontificia Univ. Católica (Chile); K. D. Irwin, National Institute of Standards and Technology (United States); N. Jarosik, Princeton Univ. (United States); J. Klein, Univ. of Pennsylvania (United States); A. Kosowsky, Univ. of Pittsburgh (United States); T. A. Marriage, Princeton Univ. (United States); J. McMahon, Univ. of Michigan (United States); F. Menanteau, Rutgers Univ. (United States); K. Moodley, Univ. of KwaZulu-Natal (South Africa); J. P. Nibarger, National Institute of Standards and Technology (United States); M. R. Nolta, Univ. of Toronto (Canada); L. A. Page, Princeton Univ. (United States); B. Partridge, Haverford College (United States); E. D. Reese, Univ. of Pennsylvania (United States); J. Sievers, Univ. of Toronto (Canada); D. N. Spergel, S. T. Staggs, Princeton Univ.
SESSION 16  READOUTS AND ELECTRONICS

7741 1T  First implementation of TES bolometer arrays with SQUID-based multiplexed readout on a balloon-borne platform  [7741-64]
F. Aubin, McGill Univ. (Canada); A. M. Aboobaker, Univ. of Minnesota (United States); P. Ade, Cardiff Univ. (United Kingdom); C. Baccigalupi, Scuola Internazionale Superiore di Studi Avanzati (Italy); C. Bao, Univ. of Minnesota (United States); J. Borrill, C. Cantalupo, Lawrence Berkeley National Lab. (United States); D. Chapman, J. Didier, Columbia Univ. (United States); M. Dobbs, McGill Univ. (Canada); W. Grainger, Cardiff Univ. (United Kingdom); S. Hanany, Univ. of Minnesota (United States); J. Hubmayr, National Institute of Standards and Technology (United States); P. Hyland, McGill Univ. (Canada); S. Hillbrand, Columbia Univ. (United States); A. Jaffe, Imperial College London (United Kingdom); B. Johnson, Univ. of California, Berkeley (United States); T. Jones, Univ. of Minnesota (United States); T. Kisner, Lawrence Berkeley National Lab. (United States); J. Klein, Univ. of Minnesota (United States); A. Korotkov, Brown Univ. (United States); S. Leach, Scuola Internazionale Superiore di Studi Avanzati (Italy); A. Lee, Univ. of California, Berkeley (United States); M. Limon, Columbia Univ. (United States); K. MacDermid, McGill Univ. (Canada); T. Matsumura, California Institute of Technology (United States); X. Meng, Univ. of California, Berkeley (United States); A. Miller, Columbia Univ. (United States); M. Milligan, D. Polsgrove, Univ. of Minnesota (United States); N. Ponthieu, Univ. Paris-Sud (France); K. Raach, Univ. of Minnesota (United States); B. Reichborn-Kjennerud, Columbia Univ. (United States); I. Sagiv, Univ. of Minnesota (United States); G. Smecher, McGill Univ. (Canada); H. Tran, Univ. of California, Berkeley (United States); G. S. Tucker, Y. Vinokurov, Brown Univ. (United States); A. Yadav, M. Zaldarriaga, Institute for Advanced Study (United States); K. Zilic, Univ. of Minnesota (United States)

7741 1V  An open-source readout for MKIDs  [7741-67]
R. Duan, California Institute of Technology (United States); S. McHugh, Univ. of California, Santa Barbara (United States); B. Serfass, Univ. of California, Berkeley (United States); B. A. Mazin, A. Merrill, Univ. of California, Santa Barbara (United States); S. R. Golwala, T. P. Downes, N. G. Czakon, California Institute of Technology (United States); P. K. Day, Jet Propulsion Lab. (United States); J. Gao, National Institute of Standards and Technology (United States); J. Glenn, Univ. of Colorado at Boulder (United States); M. I. Hollister, California Institute of Technology (United States); H. G. Leduc, Jet Propulsion Lab. (United States); P. R. Maloney, Univ. of Colorado at Boulder (United States); O. Noroozian, California Institute of Technology (United States); H. T. Nguyen, J. Sayers, Jet Propulsion Lab. (United States); J. A. Schlaerth, Univ. of Colorado at Boulder (United States); S. Siegel, California Institute of Technology (United States); J. E. Vaillancourt, Stratospheric Observatory for Infrared Astronomy (United States); A. Vayonakis, California Institute of Technology (United States); P. R. Wilson, Jet Propulsion Lab. (United States); J. Zmuidzinas, California Institute of Technology (United States)
### POSTER SESSION: CAMERAS I: CURRENT DIRECT DETECTION

<table>
<thead>
<tr>
<th>7741 1X</th>
<th>Extinction correction and on-sky calibration of SCUBA-2 [7741-69]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>J. T. Dempsey, P. Friberg, T. Jenness, D. Bintley, Joint Astronomy Ctr. (United States); W. S. Holland, UK Astronomy Technology Ctr. (United Kingdom) and Univ. of Edinburgh (United Kingdom)</td>
</tr>
</tbody>
</table>

### POSTER SESSION: DETECTORS II: TRANSITION EDGE SENSORS

<table>
<thead>
<tr>
<th>7741 20</th>
<th>Development of superconducting transition edge sensors based on electron-phonon decoupling [7741-72]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N. Jethava, NASA Goddard Space Flight Ctr. (United States) and Global Science and Technology (United States); J. Chervenak, NASA Goddard Space Flight Ctr. (United States); A. D. Brown, NASA Goddard Space Flight Ctr. (United States) and MEI Technologies, Inc. (United States); D. Benford, G. Kletetschka, NASA Goddard Space Flight Ctr. (United States); V. Mikula, NASA Goddard Space Flight Ctr. (United States) and Catholic Univ. of America (United States); K. U-yen, NASA Goddard Space Flight Ctr. (United States)</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>7741 21</th>
<th>Characterizing Si,N, absorbers and support beams for far-infrared/submillimeter transition-edge sensors [7741-73]</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>7741 22</th>
<th>Optical efficiency of feedhorn-coupled TES polarimeters for next-generation CMB instruments [7741-74]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>J. W. Henning, Univ. of Colorado at Boulder (United States); J. W. Appel, Princeton Univ. (United States); J. E. Austermann, Univ. of Colorado at Boulder (United States); J. A. Beall, D. Becker, D. A. Bennett, National Institute of Standards and Technology (United States); L. E. Bleem, B. A. Benson, Univ. of Chicago (United States); J. Britton, National Institute of Standards and Technology (United States); J. E. Carlstrom, C. L. Chang, Univ. of Chicago (United States); H. M. Cho, National Institute of Standards and Technology (United States); A. T. Crites, Univ. of Chicago (United States); T. Essinger-Hileman, Princeton Univ. (United States); W. Everett, Univ. of Chicago (United States); E. M. George, Univ. of California, Berkeley (United States); N. W. Halverson, Univ. of Colorado at Boulder (United States); G. C. Hilton, National Institute of Standards and Technology (United States); W. L. Holzapfel, Univ. of California, Berkeley (United States); J. Hubmayr, K. D. Irwin, D. Li, National Institute of Standards and Technology (United States); J. McMahon, Univ. of Colorado at Boulder (United States); S. M. Meyer, National Institute of Standards and Technology (United States); J. Mehl, S. S. Meyer, Univ. of Chicago (United States); S. Moseley, NASA Goddard Space Flight Ctr. (United States); J. P. Nibarger, M. D. Niemack, National Institute of Standards and Technology (United States); L. P. Parker, Princeton Univ. (United States); E. Shirakoff, Univ. of California, Berkeley (United States); S. M. Simon, Univ. of Colorado at Boulder (United States); S. T. Staggs, Princeton Univ. (United States); J. N. Ullom, National Institute of Standards and Technology (United States); K. U-Yen, NASA Goddard Space Flight Ctr. (United States); C. Visnjic, Princeton Univ. (United States); E. Wollack, NASA Goddard Space Flight Ctr. (United States); K. W. Yoon, National Institute of Standards and Technology (United States); E. Y. Young, Univ. of California, Berkeley (United States); Y. Zhao, Princeton Univ. (United States)</td>
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</table>
7741 23 Component development for ALMA Band 1 (31-45 GHz) [7741-75]
D. Henke, S. Claude, F. Jiang, National Research Council Canada (Canada); D. Dousset, Ecole Polytechnique de Montréal (Canada); F. Rossi, Univ. of Victoria (Canada)

7741 24 A compact L-band Ortho Mode Junction [7741-76]
T. Pisanu, P. Marongiu, A. Navarrini, G. Valente, Cagliari Astronomical Observatory (Italy)

7741 25 Selective spectral detection of continuum terahertz radiation [7741-77]
P. Kaufmann, Univ. Presbiteriana Mackenzie (Brazil) and Univ. Estadual de Campinas (Brazil); R. Marcon, Univ. Estadual de Campinas (Brazil) and Observatório Solar Bernard Lyot (Argentina); A. S. Kudaka, Univ. Presbiteriana Mackenzie (Brazil); E. Bortolucci, M. B. Zákia, J. A. Diniz, Univ. Estadual de Campinas (Brazil); M. M. Cassiano, Univ. Presbiteriana Mackenzie (Brazil); P. Pereyra, R. Godoy, Complejo Astronómico El Leoncito (Argentina); A. V. Timofeevsky, V. A. Nikolaev, Tydex JS Co. (Russian Federation); A. M. Pereira Alves da Silva, Univ. Estadual de Campinas (Brazil); L. O. T. Fernandes, Univ. Presbiteriana Mackenzie (Brazil)

7741 26 The dual-band LP feed system for the Sardinia Radio Telescope prime focus [7741-79]
G. Valente, T. Pisanu, P. Bolli, INAF, Cagliari Astronomy Observatory (Italy); S. Mariotti, INAF, Radio Astronomy Institute (Italy); P. Marongiu, A. Navarrini, INAF, Cagliari Astronomy Observatory (Italy); R. Nesti, INAF, Arcetri Astrophysical Observatory (Italy); A. Orfei, J. Roda, INAF, Radio Astronomy Institute (Italy)

7741 28 Optical properties of astronomical silicates with infrared techniques [7741-81]
R. E. Kinzer, Jr., NASA Goddard Space Flight Ctr. (United States) and Oak Ridge Associated Univ. (United States); S. Rinehart, D. Benford, E. Dwek, R. Henry, J. Nuth, R. Silverberg, NASA Goddard Space Flight Ctr. (United States); C. Wheeler, Univ. of Maryland, College Park (United States); E. Wollack, NASA Goddard Space Flight Ctr. (United States)

7741 29 A wide-band smooth-walled feedhorn with low cross polarization for millimeter astronomy [7741-82]
L. Zeng, C. L. Bennett, The Johns Hopkins Univ. (United States); D. T. Chuss, E. J. Wollack, NASA Goddard Space Flight Ctr. (United States)

7741 28 Modeling and characterization of the SPIDER half-wave plate [7741-84]
S. A. Bryan, Case Western Reserve Univ. (United States); P. A. R. Ade, Cardiff Univ. (United Kingdom); M. Amiri, The Univ. of British Columbia (Canada); S. Benton, Univ. of Toronto (United States); R. Bihary, Case Western Reserve Univ. (United States); J. J. Bock, California Institute of Technology (United States) and Jet Propulsion Lab. (United States); J. R. Bond, Univ. of Toronto (United States); J. A. Bonetti, Jet Propulsion Lab. (United States); H. C. Chiang, Princeton Univ. (United States); C. R. Contaldi, Imperial College London (United Kingdom); B. P. Crill, California Institute of Technology (United States) and Jet Propulsion Lab. (United States); D. O’Dea, Imperial College London (United Kingdom); O. Doré, California Institute of Technology (United States) and Jet Propulsion Lab. (United States); M. Farhang, Univ. of Toronto (United States); J. P. Filipini, California Institute of Technology (United States); L. Fissel, N. Gandilo, Univ. of Toronto (United States); S. Golwala, California Institute of Technology (United States); J. E. Gudmundsson, Princeton Univ. (United States); M. Hasselfield, M. Halpern, The Univ. of British Columbia (Canada); K. R. Helson, Case
Compact radiative control structures for millimeter astronomy [7741-85]
A. D. Brown, NASA Goddard Space Flight Ctr. (United States) and MEI Technologies, Inc. (United States); D. T. Chuss, J. A. Chervenak, R. M. Henry, S. H. Moseley, E. J. Wollack, NASA Goddard Space Flight Ctr. (United States)

A waveguide orthomode transducer for 385-500 GHz [7741-86]
C. Groppi, Arizona State Univ. (United States); A. Navarrini, INAF, Osservatorio Astronomico di Cagliari (Italy); G. Chattopadhyay, Jet Propulsion Lab. (United States)

Testing results and current status of FTS-2, an imaging Fourier transform spectrometer for SCUBA-2 [7741-89]
B. Gom, D. Naylor, Univ. of Lethbridge (Canada)

A novel 180° hybrid power divider [7741-90]
G. Valente, A. Navarrini, T. Pisanu, INAF, Cagliari Astronomy Observatory (Italy)

Amplification system of ALMA Band 1 [7741-91]
N. Reyes, C. Jarufe, F. P. Mena, J. Pizarro, L. Bronfman, J. May, Univ. de Chile (Chile)

Coherent polarimeter modules for the QUIET experiment [7741-92]
K. A. Cleary, California Institute of Technology (United States)

Development of MMIC receivers for cosmic microwave background interferometry [7741-93]
M. Sieth, J. M. Lau, P. Voll, S. Church, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics & Cosmology (United States); P. Kangaslahi, L. Samoska, M. Soria, T. Gaier, Jet Propulsion Lab. (United States); D. Van Winkle, J. Neilson, S. Tantawi, SLAC National Accelerator Lab. (United States); K. Cleary, A. C. S. Readhead, California Institute of Technology (United States)
Development of a 150 GHz MMIC module prototype for large-scale CMB radiation experiments [7741-94]
P. Voll, J. M. Lau, M. Sieth, S. E. Church, Stanford Univ. (United States) and Kavli Institute for Particle Astrophysics & Cosmology (United States); L. A. Samoska, P. P. Kangaslahti, M. Soria, T. C. Gaier, Jet Propulsion Lab. (United States); D. Van Winkle, S. Tantawi, SLAC National Accelerator Lab. (United States)

ALMA front-end verification using dry cold load [7741-96]
Y. Lee, B. Ellison, P. Huggard, M. Harman, A. Boughriet, W. Bartynowski, M. Oldfield, N. Morris, Rutherford Appleton Lab. (United Kingdom); P. Hekman, European Organisation for Astronomical Research in the Southern Hemisphere (United Kingdom); G. H. Tan, Rutherford Appleton Lab. (United Kingdom)

Vertically illuminated TW-UTC photodiodes for terahertz generation [7741-97]
C. Barrientos Z., V. Calle, M. Diaz, F. P. Mena, Univ. of Chile (Chile); J. Vukusic, J. Stake, Chalmers Univ. of Technology (Sweden); E. A. Michael, Univ. of Chile (Chile)

Beam characterization for the QUIET Q-Band instrument using polarized and unpolarized astronomical sources [7741-98]
R. A. Monsalve, Univ. of Miami (United States)

Responsivity calibration of the QUIET Q-Band array [7741-99]
R. N. Dumoulin, Columbia Univ. (United States)

Absolute polarization angle calibration using polarized diffuse Galactic emission observed by BICEP [7741-100]
T. Matsumura, California Institute of Technology (United States); P. Ade, Univ. of Wales (United Kingdom); D. Barkats, Joint ALMA Office (Chile); D. Barron, Univ. of California, San Diego (United States); J. O. Battle, E. M. Bierman, Jet Propulsion Lab. (United States); J. J. Bock, Jet Propulsion Lab. (United States) and California Institute of Technology (United States); H. C. Chiang, Princeton Univ. (United States); B. P. Crill, C. D. Dowell, Jet Propulsion Lab. (United States) and California Institute of Technology (United States); L. Duband, Commissariat à l’Energie Atomique (France); E. F. Hivon, Institut d’Astrophysique de Paris (France); W. L. Holzapfel, Univ. of California, Berkeley (United States); V. V. Hristov, California Institute of Technology (United States); W. C. Jones, Princeton Univ. (United States); B. G. Keating, Jet Propulsion Lab. (United States); J. M. Kovac, Harvard Univ. (United States); C.-L. Kuo, Stanford Univ. (United States); A. E. Lange, Jet Propulsion Lab. (United States) and California Institute of Technology (United States); E. M. Leitch, Jet Propulsion Lab. (United States); P. V. Mason, California Institute of Technology (United States); H. T. Nguyen, Jet Propulsion Lab. (United States); N. Ponthieu, Univ. of Paris XI (France); C. Pryke, The Univ. of Chicago (United States); S. Richter, California Institute of Technology (United States); G. M. Rocha, Jet Propulsion Lab. (United States); Y. D. Takahashi, Univ. of California, Berkeley (United States); K. W. Yoon, National Institute of Standards and Technology (United States)
POSTER SESSION: CRYO-MECHANICAL DESIGN

7741 2R  Thermal and mechanical architecture for the SAFARI focal plane assembly [7741-103]
J. Martignac, AIM Paris Saclay, CEA, CNRS, UP7 (France)

POSTER SESSION: READOUTS AND ELECTRONICS

7741 2T  Real-time Tbps digital correlator in NTU-array [7741-106]
S.-K. Wong, H.-H. Li, Y.-S. Shao, J. Shiao, H.-F. Teng, Y.-L. Chen, T. Chiueh, National Taiwan
Univ. (Taiwan)

7741 2U  Detection and repair of radiation induced single event upsets in an FPGA-based readout for
TES bolometer arrays [7741-107]
G. Smecher, F. Aubin, McGill Univ. (Canada); O. Djazovski, Canadian Space Agency
(Canada); M. Dobbs, McGill Univ. (Canada); G. Faulkner, F. Gulino, COM DEV International
(Canada); P. O. Hyland, K. MacDermid, McGill Univ. (Canada); N. Rowlands, COM DEV
International (Canada)

7741 2V  SISCAM 32-ch cryogenic readout module with GaAs-JFET ASICs [7741-108]
H. Matsuo, Y. Hibi, National Astronomical Observatory of Japan (Japan); H. Nagata,
H. Ikeda, Japan Aerospace Exploration Agency (Japan); M. Fujiwara, National Institute of
Information and Communications Technology (Japan)

Author Index
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Christopher K. Walker, Steward Observatory, The University of Arizona (United States)

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1 Cameras I: Current Direct Detection I
   Jonas Zmuidzinas, California Institute of Technology (United States)

2 Cameras I: Current Direct Detection II
   Wayne S. Holland, The Royal Observatory, Edinburgh (United Kingdom)

3 Detectors I: Photoconductor Arrays
   Wayne S. Holland, The Royal Observatory, Edinburgh (United Kingdom)
4 Cameras II: Future Direct Detection
Johannes G. Staguhn, NASA Goddard Space Flight Center (United States)

5 Detectors II: Transition Edge Sensors
Kent D. Irwin, National Institute of Standards and Technology (United States)

6 Detectors III: Kinetic Inductance Detectors
Walfried Raab, Max-Planck-Institut für extraterrestrische Physik (Germany)

7 Optical Design and Components
J. Anthony Murphy, National University of Ireland, Maynooth (Ireland)

8 Cameras III: Current and Future Spectroscopic
Alexander Karpov, California Institute of Technology (United States)

9 Detectors IV: SIS Mixers, Local Oscillators
Alexander Karpov, California Institute of Technology (United States)

10 Detectors V: SIS Mixers, Local Oscillators
Christopher K. Walker, Steward Observatory, The University of Arizona (United States)

11 Detectors VI: Hot and Cold Electron Bolometers
Albrecht Poglitsch, Max-Planck-Institut für extraterrestrische Physik (Germany)

12 CMB Instruments I: Current and Near Term I
Sarah E. Church, Stanford University (United States)

13 CMB Instruments I: Current and Near Term II
Sarah E. Church, Stanford University (United States)

14 Cryo-Mechanical Design
J. Anthony Murphy, National University of Ireland, Maynooth (Ireland)

15 CMB Instruments II: Longer Term
James J. Bock, Jet Propulsion Laboratory (United States)

16 Readouts and Electronics
James J. Bock, Jet Propulsion Laboratory (United States)