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Jacobus M. Oschmann Jr.
Mark Clampin
Giovanni G. Fazio
Howard A. MacEwen
Editors

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High Energy Accelerator Research Organization (Japan); Y. Sato, Japan Aerospace Exploration Agency (Japan); Y. Segawa, The Graduate Univ. of Advanced Studies (Japan); Y. Sekimoto, National Astronomical Observatory of Japan (Japan); K. Shinozaki, H. Sugita, Japan Aerospace Exploration Agency (Japan); A. Suzuki, Univ. of California, Berkeley (United States); T. Suzuki, O. Tajima, High Energy Accelerator Research Organization (Japan); S. Takada, National Institute for Fusion Science (Japan); S. Takakura, Osaka Univ. (Japan); Y. Takei, Japan Aerospace Exploration Agency (Japan); T. Tomaru, High Energy Accelerator Research Organization (Japan); Y. Uzawa, National Institute of Information and Communications Technology (Japan); T. Wada, Japan Aerospace Exploration Agency (Japan); H. Watanabe, The Graduate Univ. for Advanced Studies (Japan); Y. Yamada, Okayama Univ. (Japan); H. Yamaguchi, High Energy Accelerator Research Organization (Japan); N. Yamasaki, Japan Aerospace Exploration Agency (Japan); M. Yoshida, High Energy Accelerator Research Organization (Japan); T. Yoshida, Japan Aerospace Exploration Agency (Japan); K. Yotsumoto, Japan Aerospace Exploration Agency (Japan)

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G. Marcy, Univ. of California, Berkeley (United States); P. R. McCullough, Space Telescope Science Institute (United States) and Johns Hopkins Univ. (United States); T. D. Morton, Princeton Univ. (United States); N. Narita, National Astronomical Observatory of Japan (Japan); M. Paegert, Vanderbilt Univ. (United States); E. Palles, Instituto de Astrofísica de Canarias (Spain); F. Pepe, Observatoire de Genève (Switzerland); J. Pepper, Vanderbilt Univ. (United States) and Lehigh Univ. (United States); A. Quirrenbach, Landessternwarte Heidelberg (Germany); S. A. Rinehart, NASA Goddard Space Flight Ctr. (United States); D. Sasselov, Harvard-Smithsonian Ctr. for Astrophysics (United States); B. Sato, Tokyo Institute of Technology (Japan); S. Seager, Massachusetts Institute of Technology (United States); A. Sozzetti, INAF - Osservatorio Astrofisico di Torino (Italy); K. G. Stassun, Vanderbilt Univ. (United States) and Fisk Univ. (United States); P. Sullivan, Massachusetts Institute of Technology (United States); A. Szentgyorgyi, G. Torres, Harvard-Smithsonian Ctr. for Astrophysics (United States); S. Udry, Observatoire de Genève (Switzerland); J. Villaseñor, Massachusetts Institute of Technology (United States)

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Lethbridge (Canada) and Blue Sky Spectroscopy Inc. (Canada); T. L. Lim, Rutherford Appleton Lab. (United Kingdom); N. Lu, NASA Herschel Science Ctr., California Institute of Technology (United States); G. Makiwa, Institute for Space Imaging Science, Univ. of Lethbridge (Canada); N. Marchili, Univ. degli Studi di Padova (Italy); G. S. Orton, Jet Propulsion Lab. (United States); A. Papageorgiou, Cardiff Univ. (United Kingdom); C. Pearson, Rutherford Appleton Lab. (United Kingdom) and The Open Univ. (United Kingdom); E. T. Polehampton, Institute for Space Imaging Science, Univ. of Lethbridge (Canada) and Rutherford Appleton Lab. (United Kingdom); B. Schulz, NASA Herschel Science Ctr., California Institute of Technology (United States); L. D. Spencer, Institute for Space Imaging Science, Univ. of Lethbridge (Canada); B. M. Swinyard, Univ. College London (United Kingdom) and Rutherford Appleton Lab. (United Kingdom); I. Valtchanov, European Space Astronomy Ctr. (Spain); M. H. D. van der Wiel, I. T. Veenendaal, Institute for Space Imaging Science, Univ. of Lethbridge (Canada); R. Wu, CEA Saclay (France)

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B. Nicula, Royal Observatory of Belgium (Belgium); P. Orleński, Ctr. Badań Kosmicznych Polskiej Akademii Nauk (Poland); M.-C. Palau, Astri Polska Sp. z o. o. (Poland); M. Pancrazzi, INAF - Osservatorio Astrofisico di Arcetri (Italy); A. Paschalis, National and Kapodistrian Univ. of Athens (Greece); R. Peresty, Serenum a.s. (Czech Republic); J.-Y. Plesseria, Ctr. Spatial de Liège, Univ. de Liège (Belgium); M. Rataj, Ctr. Badań Kosmicznych Polskiej Akademii Nauk (Poland); M. Romoli, Univ. degli Studi di Firenze (Italy); C. Thizy, M. Thomé, Ctr. Spatial de Liège, Univ. de Liège (Belgium); K. Tsinganos, National and Kapodistrian Univ. of Athens (Greece); R. Wodnicki, Solaris Optics S.A. (Poland); T. Walczak, PCO S.A. (Poland); A. Zhukov, Royal Observatory of Belgium (Belgium)

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A. M. Di Giorgio, E. Galli, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); M. Farina,
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Astronomical Observatory of Japan (Japan); E. Serabyn, W. A. Traub, K. M. Liewer,
D. C. Moody, J. T. Trauger, Jet Propulsion Lab. (United States); O. Guyon, Subaru Telescope,
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(United States); F. Martinache, Lab. Lagrange, CNRS, Observatoire de la Côte d'Azur
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Illinois at Urbana-Champaign (United States); S. Johnson-Shapoval, Univ. of Maryland, College Park (United States); D. T. Leisawitz, S. F. Maher, NASA Goddard Space Flight Ctr. (United States); L. G. Mundy, Univ. of Maryland, College Park (United States); A. Papageorgiou, E. Pascale, Cardiff Univ. (United Kingdom); A. Rau, Naperville North High School (United States); R. F. Silverberg, NASA Goddard Space Flight Ctr. (United States); P. Taraschi, Alfred Univ. (United States); T. J. Veach, NASA Goddard Space Flight Ctr. (United States); S. Weinreich, Brown Univ. (United States)

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T. Morford, California Institute of Technology (United States); Y. Onishi, Japan Aerospace Exploration Agency (Japan); M. Shirahata, National Astronomical Observatory of Japan (Japan); K. Tsumura, Tohoku Univ. (Japan); T. Wada, Japan Aerospace Exploration Agency (Japan); M. Zemcov, California Institute of Technology (United States) and Jet Propulsion Lab. (United States)

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Lee D. Feinberg, NASA Goddard Space Flight Center (United States)
Makenzie Lystrup, Ball Aerospace & Technologies Corporation (United States)
Jean-Pierre Maillard, Institut d'Astrophysique de Paris (France)
Gary W. Matthews, Exelis Inc. (United States)
Jaymie Mark Matthews, The University of British Columbia (Canada)

Mark J. McCaughrean, European Space Research and Technology Center (Netherlands)
Eric P. Smith, NASA Headquarters (United States)
Giorgio Savini, University College London (United Kingdom)
Giovanna Tinetti, University College London (United Kingdom)

Session Chairs

- 1 JWST I
Eric P. Smith, NASA Headquarters (United States)
- 2 JWST II
Giorgio Savini, University College London (United Kingdom)
- 3 JWST III
Mark Clampin, NASA Goddard Space Flight Center (United States)
- 4 Euclid
Jonathan W. Arenberg, Northrop Grumman Aerospace Systems (United States)

Monday Plenary Session

Luc Simard, National Research Council Canada (Canada)

- 5 AFTA/WFIRST I
Jacobus M. Oschmann Jr., Ball Aerospace & Technologies Corporation (United States)
- 6 AFTA/WFIRST II
Lee D. Feinberg, NASA Goddard Space Flight Center (United States)
- 7 Astrometry
Giovanni G. Fazio, Harvard-Smithsonian Center for Astrophysics (United States)

Plenary Session

Gillian S. Wright, UK Astronomy Technology Centre (United Kingdom)

- 8 Innovative Concepts I
Howard A. MacEwen, Reviresco LLC (United States)
- 9 Innovative Concepts II
Jacobus M. Oschmann Jr., Ball Aerospace & Technologies Corporation (United States)

Wednesday Plenary Session

Colin Cunningham, UK Astronomy Technology Centre
(United Kingdom)

- 10 SPICA/SPITZER
James B. Breckinridge, The University of Arizona (United States)
- 11 Solar System
Allison A. Barto, Ball Aerospace & Technologies Corporation
(United States)
- 12 Technology - Optics
Gary W. Matthews, Exelis Inc. (United States)

Thursday Plenary Session

Masanori Iye, National Astronomical Observatory of Japan (Japan)

- 13 Technology Instruments I
Jaymie Mark Matthews, The University of British Columbia (Canada)
- 14 Technology Instruments II
Etienne Artigau, Université de Montréal (Canada)
- 15 Exoplanets I
Jean-Pierre Maillard, Institut d'Astrophysique de Paris (France)
- 16 Exoplanets II
Makenzie Lystrup, Ball Aerospace & Technologies Corporation
(United States)

Introduction

In these conference proceedings, we address the current status of major space telescope flight programs, new concepts for systems and instruments under development, and enabling technologies for use in new or enhanced missions.

- The Proceedings volume begins with a large set of papers covering every aspect of the James Webb Space Telescope (JWST) program. Specific emphasis is paid to this year's program on the execution and planning of JWST's integration and test program, now well under way and positioning the JWST on the road to launch in 2018.
- Far-IR programs covered in these Proceedings include Herschel's scientific performance and a description of the new project framework for the SPICA mission. The instrument designs under this new framework for SPICA are summarized together with their scientific drivers. Finally, a new specialized technique developed to exploit the Spitzer Space Telescope warm mission will help improve astrometry with Spitzer, while additional papers address the analysis of existing Spitzer data.
- Europe's flagship Dark Energy mission, Euclid, has been approved for implementation and is moving forward. The mission is well represented by descriptions of the program status and science requirements, complemented by detailed descriptions of the design and performance of the observatory and the baselined science instruments.
- Sessions on innovative concepts presented several new ideas for future very large-aperture optical/IR space telescopes designed to undertake a range of astrophysics missions, with a primary goal of characterizing terrestrial planets around nearby stars. Much of these sessions focused on high contrast imaging and the fabrication of large aperture, low-cost space telescope optics.

The conference theme was the "behind-the-scene processes" that have led or are leading projects from the drawing board to the sky. The diversity of papers presented in the conference demonstrate the wide range and difficulty of challenges encountered at every stage of the process, and the innovative approaches that must be employed to overcome those challenges and realize the opportunities that they also present.

Jacobus M. Oschmann Jr.
Mark Clampin
Giovanni G. Fazio
Howard A. MacEwen