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Ian S. McLean
Suzanne K. Ramsay
Hideki Takami
Editors

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Contents

lix	Conference Committee
lxi	Introduction
lxiii	<i>The cosmic microwave background: observing directly the early universe (Plenary Paper) [8442-506]</i> <i>P. de Bernardis, Silvia Masi, Univ. degli Studi di Roma La Sapienza (Italy)</i>

Part One

SESSION 1 INSTRUMENTATION AT MAJOR OBSERVATORIES

8446 03	Advances in instrumentation at the W. M. Keck Observatory (Invited Paper) [8446-1] S. M. Adkins, T. E. Armandroff, J. Johnson, H. A. Lewis, W. M. Keck Observatory (United States); C. Martin, California Institute of Technology (United States); I. S. McLean, Univ. of California, Los Angeles (United States); P. Wizinowich, W. M. Keck Observatory (United States)
8446 04	Overview of the ESO instrumentation programme (Invited Paper) [8446-2] M. M. Casali, L. Pasquini, S. Ramsay, European Southern Observatory (Germany)
8446 05	Instrumentation at Subaru Telescope (Invited Paper) [8446-3] N. Takato, I. Iwata, Subaru Telescope, National Astronomical Observatory of Japan (United States)
8446 06	Gemini's instrumentation program: latest results and long-range plan (Invited Paper) [8446-4] M. Boccas, Gemini Observatory (Chile); S. J. Kleinman, S. Goodsell, E. Tollestrup, Gemini Observatory (United States); A. Adamson, G. Arriagada, Gemini Observatory (Chile); J. Christou, Gemini Observatory (United States); P. Gonzalez, Gemini Observatory (Chile); K. Hanna, Gemini Observatory (United States); M. Hartung, Gemini Observatory (Chile); M. Lazo, The Australian National Univ. (Australia); R. Mason, Gemini Observatory (United States); B. Neichel, G. Perez, Gemini Observatory (Chile); D. Simons, CFHT Corp. (United States); B. Walls, J. White, Gemini Observatory (United States)
8446 07	An overview of instrumentation for the Large Binocular Telescope (Invited Paper) [8446-5] R. M. Wagner, Large Binocular Telescope Observatory (United States)
8446 09	The La Silla-Paranal (LSP) instrumentation program [8446-7] L. Pasquini, European Southern Observatory (Germany)

SESSION 2 NEW INSTRUMENTS

- 8446 0A **The SALT HRS spectrograph: instrument integration and laboratory test results** [8446-8]
D. G. Bramall, J. Schmoll, L. M. G. Tyas, P. Clark, E. Younger, R. M. Sharples, N. A. Dipper,
Univ. of Durham (United Kingdom); S. G. Ryan, Univ. of Hertfordshire (United Kingdom);
D. A. Buckley, J. Brink, South African Astronomical Observatory (South Africa)
- 8446 0B **Performance of the CHIRON high-resolution Echelle spectrograph** [8446-9]
C. Schwab, J. F. P. Spronck, Yale Univ. (United States); A. Tokovinin, Cerro Tololo Inter-
American Observatory (Chile); A. Szymkowiak, M. Giguere, D. A. Fischer, Yale Univ. (United
States)
- 8446 0E **VISIR upgrade overview and status** [8446-12]
F. Kerber, H. U. Käufel, European Southern Observatory (Germany); P. Baksai, European
Southern Observatory (Chile); D. Dobrzycka, G. Finger, D. Ives, G. Jakob, E. Lagadec,
L. Lundin, European Southern Observatory (Germany); D. Mawet, European Southern
Observatory (Chile); L. Mehrgan, European Southern Observatory (Germany);
M. Moerchen, European Southern Observatory (Germany) and Leiden Observatory,
Leiden Univ. (Netherlands); Y. Momany, European Southern Observatory (Chile);
V. Moreau, E. Pantin, CEA Saclay, DSM/DAPNIA/Service d'Astrophysique (France);
M. Riquelme, European Southern Observatory (Chile); R. Siebenmorgen, European
Southern Observatory (Germany); A. Silber, A. Smette, European Southern Observatory
(Chile); J. Taylor, M. van den Ancker, European Southern Observatory (Germany);
L. Venema, NOVA - ASTRON (Netherlands); U. Weilenmann, I. Yegorova, European
Southern Observatory (Chile)
- 8446 0F **ARCONS: a 1024 pixel superconducting integral field spectrograph** [8446-13]
K. O'Brien, B. Mazin, S. McHugh, S. Meeker, D. Marsden, Univ. of California, Santa Barbara
(United States); B. Bumble, Jet Propulsion Lab. (United States)
- 8446 0G **On-sky performance of the Multi-Object Double Spectrograph for the Large Binocular
Telescope** [8446-14]
R. W. Pogge, B. Atwood, T. P. O'Brien, P. L. Byard, M. A. Derwent, R. Gonzalez, P. Martini,
J. A. Mason, P. S. Osmer, D. P. Pappalardo, R. Zhelem, R. A. Stoll, D. P. Steinbrecher,
D. F. Brewer, C. Colarosa, E. J. Teiga, The Ohio State Univ. (United States)
- 8446 0H **Performance of the Apache Point Observatory Galactic Evolution Experiment (APOGEE)
high-resolution near-infrared multi-object fiber spectrograph** [8446-15]
J. C. Wilson, F. Hearty, M. F. Skrutskie, S. R. Majewski, Univ. of Virginia (United States);
R. Schiavon, Gemini Observatory (United States); D. Eisenstein, Harvard-Smithsonian Ctr. for
Astrophysics (United States); J. Gunn, Princeton Univ. (United States); J. Holtzman, New
Mexico State Univ. (United States); D. Nidever, Univ. of Virginia (United States); B. Gillespie,
Apache Point Observatory (United States); D. Weinberg, The Ohio State Univ. (United
States); B. Blank, C. Henderson, PulseRay (United States); S. Smee, R. Barkhouser,
A. Harding, S. Hope, The Johns Hopkins Univ. (United States); G. Fitzgerald, T. Stolberg, New
England Optical Systems (United States); J. Arns, Kaiser Optical Systems, Inc. (United
States); M. Nelson, S. Brunner, A. Burton, E. Walker, C. Lam, Univ. of Virginia (United States);
P. Maseman, Steward Observatory, The Univ. of Arizona (United States); J. Barr, Univ. of
Virginia (United States); F. Leger, L. Carey, N. MacDonald, Univ. of Washington (United
States); G. Ebelke, Apache Point Observatory (United States); S. Beland, Univ. of Colorado
at Boulder (United States); T. Horne, College of Optical Sciences, The Univ. of Arizona
(United States); E. Young, NASA Ames Research Ctr. (United States); G. Rieke, M. Rieke, The

Univ. of Arizona (United States); T. O'Brien, The Ohio State Univ. (United States); J. Crane, Carnegie Observatories (United States); M. Carr, Princeton Univ. (United States); C. Harrison, R. Stoll, M. Vernieri, C Technologies, Inc. (United States); M. Shetrone, McDonald Observatory, The Univ. of Texas at Austin (United States); C. Allende-Prieto, Instituto de Astrofísica de Canarias (Spain); J. Johnson, The Ohio State Univ. (United States); P. Frinchaboy, Texas Christian Univ. (United States); G. Zasowski, A. Garcia Perez, Univ. of Virginia (United States); D. Bizyaev, Apache Point Observatory (United States); K. Cunha, Observatorio Nacional, Rio de Janeiro (Brazil) and National Optical Astronomy Observatories (United States) and Steward Observatory, Univ. of Arizona (United States); V. V. Smith, National Optical Astronomy Observatories (United States); S. Meszaros, Instituto de Astrofísica de Canarias (Spain); B. Zhao, Univ. of Florida (United States); M. Hayden, New Mexico State Univ. (United States); S. D. Chojnowski, Univ. of Virginia (United States); B. Andrews, The Ohio State Univ. (United States); C. Loomis, Princeton Univ. (United States); R. Owen, Univ. of Washington (United States); M. Klaene, J. Brinkmann, F. Stauffer, D. Long, W. Jordan, D. Holder, F. Cope, T. Naugle, B. Pfaffenberger, Apache Point Observatory (United States); D. Schlegel, Lawrence Berkeley National Lab. (United States); M. Blanton, D. Muna, B. Weaver, New York Univ. (United States); S. Snedden, K. Pan, H. Brewington, E. Malanushenko, V. Malanushenko, A. Simmons, D. Oravetz, Apache Point Observatory (United States); S. Mahadevan, S. Halverson, The Pennsylvania State Univ. (United States)

8446 OI **FLAMINGOS-2: the facility near-infrared wide-field imager and multi-object spectrograph for Gemini** [8446-16]

S. Eikenberry, R. Bandyopadhyay, J. G. Bennett, A. Bessoff, M. Branch, M. Charcos, R. Corley, C. Dewitt, J.-D. Eriksen, R. Elston, R. Frommeyer, A. Gonzalez, K. Hanna, M. Herlevich, D. Hon, J. Julian, R. Julian, N. Lasso, A. Marin-Franch, J. Marti, C. Murphey, S. N. Raines, W. Rambold, D. Rashkind, C. Warner, Univ. of Florida (United States); B. Leckie, W. R. Gardhouse, M. Fletcher, T. Hardy, J. Dunn, R. Wooff, J. Pazder, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada)

8446 OJ **MOSFIRE: the multi-object spectrometer for infra-red exploration at the Keck Observatory** [8446-17]

I. S. McLean, Univ. of California, Los Angeles (United States); C. C. Steidel, California Institute of Technology (United States); H. W. Epps, Univ. of California, Santa Cruz (United States); N. Konidaris, K. Matthews, California Institute of Technology (United States); S. Adkins, W. M. Keck Observatory (United States); T. Aliado, G. Brims, J. Canfield, Univ. of California, Los Angeles (United States); J. Cromer, J. Fucik, California Institute of Technology (United States); K. Kulas, G. Mace, K. Magnone, Univ. of California, Los Angeles (United States); H. Rodriguez, G. Rudie, R. Trainor, California Institute of Technology (United States); E. Wang, Univ. of California, Los Angeles (United States); B. Weber, California Institute of Technology (United States); J. Weiss, Univ. of California, Los Angeles (United States)

SESSION 3 MULTI-OBJECT INSTRUMENTS I

8446 OK **Status of the KMOS multi-object near-infrared integral field spectrograph** [8446-18]

R. Sharples, Univ. of Durham (United Kingdom); R. Bender, Univ.-Sternwarte München (Germany) and Max-Planck-Institut für extraterrestrische Physik (Germany); A. Agudo Berbel, Max-Planck-Institut für extraterrestrische Physik (Germany); R. Bennett, N. Bezawada, M. Cirasuolo, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); P. Clark, Univ. of Durham (United Kingdom); G. Davidson, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); R. Davies, Max-Planck-Institut für extraterrestrische Physik (Germany); R. Davies, Univ. of Oxford (United Kingdom);

M. Dubbeldam, Univ. of Durham (United Kingdom); A. Fairley, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); G. Finger, European Southern Observatory (Germany); R. Genzel, Max-Planck-Institut für extraterrestrische Physik (Germany); R. Haefner, A. Hess, Univ.-Sternwarte München (Germany); I. Lewis, Univ. of Oxford (United Kingdom); D. Montgomery, J. Murray, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); B. Muschielok, Univ.-Sternwarte München (Germany); N. Förster-Schreiber, Max-Planck-Institut für extraterrestrische Physik (Germany); J. Pirard, S. Ramsay, European Southern Observatory (Germany); P. Rees, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); J. Richter, Univ.-Sternwarte München (Germany); D. Robertson, Univ. of Durham (United Kingdom); I. Robson, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); S. Rolt, Univ. of Durham (United Kingdom); R. Saglia, J. Schlichter, Univ.-Sternwarte München (Germany); M. Tecza, Univ. of Oxford (United Kingdom); S. Todd, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); M. Wegner, Univ.-Sternwarte München (Germany); E. Wiezorrek, Max-Planck-Institut für extraterrestrische Physik (Germany)

8446 OM

Subaru FMOS now and future [8446-20]

N. Tamura, Subaru Telescope, National Astronomical Observation of Japan (United States) and Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); N. Takato, Subaru Telescope, National Astronomical Observation of Japan (United States); F. Iwamuro, Kyoto Univ. (Japan); M. Akiyama, Tohoku Univ. (Japan); M. Kimura, Subaru Telescope, National Astronomical Observation of Japan (United States) and Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan) and Institute of Astronomy and Astrophysics (Taiwan); P. Tait, Subaru Telescope, National Astronomical Observation of Japan (United States); G. B. Dalton, Univ. of Oxford (United Kingdom); G. J. Murray, Univ. of Durham (United Kingdom); S. Smedley, Australian Astronomical Observatory (Australia); T. Maihara, K. Ohta, Kyoto Univ. (Japan); Y. Moritani, Kyoto Univ. (Japan) and Astrophysical Science Ctr., Hiroshima Univ. (Japan); K. Yabe, Kyoto Univ. (Japan) and National Astronomical Observation of Japan (Japan); M. Sumiyoshi, T. Totani, Kyoto Univ. (Japan); H. Sugai, H. Karoji, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); S. Wang, Y. Ohyama, Institute of Astronomy and Astrophysics (Taiwan)

8446 ON

VIRUS: production of a massively replicated 33k fiber integral field spectrograph for the upgraded Hobby-Eberly Telescope [8446-21]

G. J. Hill, S. E. Tuttle, H. Lee, B. L. Vattiat, M. E. Cornell, McDonald Observatory, The Univ. of Texas at Austin (United States); D. L. DePoy, Texas A&M Univ. (United States); N. Drory, Univ. Nacional Autónoma de México (Mexico); M. H. Fabricius, Max-Planck-Institut für extraterrestrische Physik (Germany); A. Kelz, Leibniz-Institut für Astrophysik Potsdam (Germany) and innoFSPEC Potsdam (Germany); J. L. Marshall, Texas A&M Univ. (United States); J. D. Murphy, The Univ. of Texas at Austin (United States); T. Prochaska, R. D. Allen, Texas A&M Univ. (United States); G. Blanc, Carnegie Observatories (United States); T. Chonis, The Univ. of Texas at Austin (United States); G. Dalton, Oxford Univ. (United Kingdom); K. Gebhardt, The Univ. of Texas at Austin (United States); J. Good, McDonald Observatory, The Univ. of Texas at Austin (United States); D. Haynes, Leibniz-Institut für Astrophysik Potsdam (Germany) and innoFSPEC Potsdam (Germany); T. Jahn, Leibniz-Institut für Astrophysik Potsdam (Germany); P. J. MacQueen, M. D. Rafal, McDonald Observatory, The Univ. of Texas at Austin (United States); M. M. Roth, Leibniz-Institut für Astrophysik Potsdam (Germany) and innoFSPEC Potsdam (Germany); R. D. Savage, McDonald Observatory, The Univ. of Texas at Austin (United States); J. Snigula, Max-Planck-Institut für extraterrestrische Physik (Germany)

- 8446 0O **SuperMOS: a new class of low resolution multiobject spectrographs** [8446-22]
B. A. Mazin, D. Marsden, K. O'Brien, Univ. of California, Santa Barbara (United States)

SESSION 4 MULTI-OBJECT INSTRUMENTS II

- 8446 0P **WEAVE: the next generation wide-field spectroscopy facility for the William Herschel Telescope** [8446-23]
G. Dalton, Rutherford Appleton Lab. (United Kingdom) and Univ. of Oxford (United Kingdom); S. C. Trager, Kapteyn Astronomical Institute, Univ. of Groningen (Netherlands); D. C. Abrams, Isaac Newton Group of Telescopes (Spain); D. Carter, Liverpool John Moores Univ. (United Kingdom); P. Bonifacio, Observatoire de Paris (France); J. A. L. Aguerri, Instituto de Astrofísica de Canarias (Spain); M. MacIntosh, C. Evans, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); I. Lewis, Univ. of Oxford (United Kingdom); R. Navarro, T. Agocs, NOVA - ASTRON (Netherlands); K. Dee, Engineering & Project Solutions Ltd. (United Kingdom); S. Rousset, Observatoire de la Côte d'Azur, CNRS, Univ. Nice Sophia-Antipolis (France); I. Tosh, K. Middleton, Rutherford Appleton Lab. (United Kingdom); J. Pragt, NOVA - ASTRON (Netherlands); D. Terrett, Rutherford Appleton Lab. (United Kingdom); M. Brock, Univ. of Oxford (United Kingdom); C. Benn, Isaac Newton Group of Telescopes (Spain); M. Verheijen, Kapteyn Astronomical Institute, Univ. of Groningen (Netherlands); D. Cano Infantes, C. Bevil, Isaac Newton Group of Telescopes (Spain); I. Steele, C. Mottram, S. Bates, Liverpool John Moores Univ. (United Kingdom); F. Gribbin, J. Rey, Isaac Newton Group of Telescopes (Spain); L. F. Rodriguez, J. M. Delgado, Instituto de Astrofísica de Canarias (Spain); I. Guinouard, Observatoire de Paris (France); N. Walton, M. Irwin, Institute of Astronomy, Univ. of Cambridge (United Kingdom); P. Jagourel, Observatoire de Paris (France); R. Stuik, G. Gerlofsma, R. Roelfsma, NOVA - ASTRON (Netherlands); I. Skillen, A. Ridings, M. Balcells, Isaac Newton Group of Telescopes (Spain); J. Daban, C. Gouvret, Observatoire de la Côte d'Azur, CNRS, Univ. Nice Sophia Antipolis (France); L. Venema, NOVA - ASTRON (Netherlands); P. Girard, Observatoire de la Côte d'Azur, CNRS, Univ. Nice Sophia Antipolis (France)
- 8446 0Q **Mapping the universe with BigBOSS** [8446-24]
N. Mostek, Univ. of California Berkeley (United States); K. Barbary, C. J. Bebek, Lawrence Berkeley National Lab. (United States); A. T. Dey, National Optical Astronomy Observatory (United States); J. Edelstein, P. Jelinsky, Space Sciences Lab., Univ. of California Berkeley (United States); A. G. Kim, Lawrence Berkeley National Lab. (United States); M. L. Lampton, Space Sciences Lab., Univ. of California Berkeley (United States); M. E. Levi, P. McDonald, Lawrence Berkeley National Lab. (United States); C. Poppett, Space Sciences Lab., Univ. of California Berkeley (United States); N. A. Roe, D. J. Schlegel, Lawrence Berkeley National Lab. (United States); M. J. Sholl, Space Sciences Lab., Univ. of California Berkeley (United States)
- 8446 0S **MOONS: a multi-object optical and near-infrared spectrograph for the VLT** [8446-26]
M. Cirasuolo, UK Astronomy Technology Ctr. (United Kingdom) and Institute for Astronomy (United Kingdom); J. Afonso, Observatório Astronómico de Lisboa (Portugal); R. Bender, Univ.-Sternwarte München (Germany) and Max-Planck-Institut für extraterrestrische Physik (Germany); P. Bonifacio, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); C. Evans, UK Astronomy Technology Ctr. (United Kingdom); L. Kaper, Astronomical Institute Anton Pannekoek, Univ. of Amsterdam (Netherlands); E. Oliva, INAF - Osservatorio Astrofisico di Arcetri (Italy); L. Vanzì, Pontificia Univ. Católica de Chile (Chile); M. Abreu, Ctr. de Astronomia e Astrofísica, Univ. de Lisboa (Portugal); E. Atad-Ettedgui, UK Astronomy Technology Ctr. (United Kingdom); C. Babusiaux, GEPI, Observatoire de Paris, CNRS, Univ.

Paris Diderot (France); F. E. Bauer, Pontificia Univ. Católica de Chile (Chile); P. Best, Institute for Astronomy, Edinburgh (United Kingdom); N. Bezawada, I. R. Bryson, UK Astronomy Technology Ctr. (United Kingdom); A. Cabral, Ctr. de Astronomia e Astrofísica, Univ. de Lisboa (Portugal); K. Caputi, Institute for Astronomy, Edinburgh (United Kingdom); M. Centrone, INAF - Osservatorio Astronomico Roma (Italy); F. Chemla, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); A. Cimatti, Univ. degli Studi di Bologna (Italy); M.-R. Cioni, Univ. of Hertfordshire (United Kingdom); G. Clementini, INAF - Osservatorio Astronomico di Bologna (Italy); J. Coelho, Ctr. de Astronomia e Astrofísica, Univ. de Lisboa (Portugal); E. Daddi, Commissariat à l'Énergie Atomique (France); J. Dunlop, Institute for Astronomy, Edinburgh (United Kingdom); S. Feltzing, Lund Observatory (Sweden); A. Ferguson, Institute for Astronomy, Edinburgh (United Kingdom); H. Flores, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); A. Fontana, INAF - Osservatorio Astronomico di Roma (Italy); J. Fynbo, Univ. of Copenhagen (Denmark); B. Garilli, INAF - IASF Milano (Italy); A. Glauser, ETH Zürich (Switzerland); I. Guinouard, J. F. Hammer, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); P. R. Hastings, UK Astronomy Technology Ctr. (United Kingdom); H. Hess, Univ.-Sternwarte München (Germany); R. J. Ivison, UK Astronomy Technology Ctr. (United Kingdom); P. Jagourel, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); M. Jarvis, Univ. of Hertfordshire (United Kingdom); G. Kauffman, Max-Planck-Institut für Astrophysik (Germany); A. Lawrence, Institute for Astronomy, Edinburgh (United Kingdom); D. Lee, UK Astronomy Technology Ctr. (United Kingdom); G. Li Causi, INAF - Osservatorio Astronomico di Roma (Italy); S. Lilly, ETH Zürich (Switzerland); D. Lorenzetti, R. Maiolino, INAF - Osservatorio Astronomico di Roma (Italy); F. Mannucci, INAF - Osservatorio Astrofisico di Arcetri (Italy); R. McLure, Institute for Astronomy, Edinburgh (United Kingdom); D. Minniti, Pontificia Univ. Católica de Chile (Chile); D. Montgomery, UK Astronomy Technology Ctr. (United Kingdom); B. Muschelok, Univ.-Sternwarte München (Germany); K. Nandra, Max-Planck-Institut für extraterrestrische Physik (Germany); R. Navarro, NOVA - ASTRON (Netherlands); P. Norberg, Institute for Astronomy, Edinburgh (United Kingdom); L. Origlia, INAF - Osservatorio Astronomico di Bologna (Italy); N. Padilla, Pontificia Univ. Católica de Chile (Chile); J. Peacock, Institute for Astronomy, Edinburgh (United Kingdom); F. Pedicini, L. Pentericci, INAF - Osservatorio Astronomico di Roma (Italy); J. Pragt, NOVA - ASTRON (Netherlands); M. Puech, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); S. Randich, INAF - Osservatorio Astrofisico di Arcetri (Italy); A. Renzini, INAF - Osservatorio Astronomico di Padova (Italy); N. Ryde, Lund Observatory (Sweden); M. Rodrigues, European Southern Observatory (Chile); F. Royer, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); R. Saglia, Univ.-Sternwarte München (Germany) and Max-Planck-Institut für extraterrestrische Physik (Germany); A. Sánchez, Max-Planck-Institut für extraterrestrische Physik (Germany); H. Schnettler, UK Astronomy Technology Ctr. (United Kingdom); D. Sobral, Institute for Astronomy, Edinburgh (United Kingdom); R. Speziali, INAF - Osservatorio Astronomico di Roma (Italy); S. Todd, UK Astronomy Technology Ctr. (United Kingdom); E. Tolstoy, Kapteyn Astronomical Institute, Univ. of Groningen (Netherlands); M. Torres, Pontificia Univ. Católica de Chile (Chile); L. Venema, Kapteyn Astronomical Institute, Univ. of Groningen (Netherlands); F. Vitali, INAF - Osservatorio Astronomico di Roma (Italy); M. Wegner, Univ.-Sternwarte München (Germany); M. Wells, UK Astronomy Technology Ctr. (United Kingdom); V. Wild, Institute for Astronomy, Edinburgh (United Kingdom); G. Wright, UK Astronomy Technology Ctr. (United Kingdom)

8446 OT **4MOST: 4-metre multi-object spectroscopic telescope** [8446-27]

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8446 OU **Final design of SITELLE: a wide-field imaging Fourier transform spectrometer for the Canada-France-Hawaii Telescope** [8446-28]
F. Grandmont, ABB (Canada); L. Drissen, Univ. Laval (Canada) and Univ. Laval (Canada); J. Mandar, ABB (Canada); S. Thibault, Univ. Laval (Canada); M. Baril, Canada-France-Hawaii Telescope (United States)

8446 OV **KOALA: a wide-field 1000 element integral-field unit for the Anglo-Australian Telescope** [8446-29]
S. C. Ellis, Australian Astronomical Observatory (Australia); M. Ireland, Australian Astronomical Observatory (Australia) and Macquarie Univ. (Australia); J. S. Lawrence, J. Tims, N. Staszak, J. Brzeski, Australian Astronomical Observatory (Australia); Q. A. Parker, Australian Astronomical Observatory (Australia) and Macquarie Univ. (Australia); R. Sharp, Australian National Univ. (Australia); J. Bland-Hawthorn, Sydney Institute for Astronomy, The Univ. of Sydney (Australia); S. Case, M. Colless, Australian Astronomical Observatory (Australia); S. Croom, Sydney Institute for Astronomy, The Univ. of Sydney (Australia); W. Couch, Swinburne Univ. of Technology (Australia); O. De Marco, Macquarie Univ. (Australia); K. Glazebrook, Swinburne Univ. of Technology (Australia); W. Saunders, Australian Astronomical Observatory (Australia); R. Webster, The Univ. of Melbourne (Australia); D. B. Zucker, Macquarie Univ. (Australia)

8446 OW **Integrating the HERMES spectrograph for the AAT** [8446-213]
J. Heijmans, Australian Astronomical Observatory (Australia); M. Asplund, Mount Stromlo Observatory, Australian National Univ. (Australia); S. Barden, Australian Astronomical Observatory (Australia) and National Solar Observatory (United States); M. Birchall, Australian Astronomical Observatory (Australia); D. Carollo, Macquarie Univ. (Australia); J. Bland-Hawthorn, The Univ. of Sydney (Australia); J. Brzeski, S. Case, V. Churilov, M. Colless, R. Dean, G. De Silva, T. J. Farrell, K. Fiegert, Australian Astronomical Observatory (Australia); K. Freeman, Mount Stromlo Observatory, Australian National Univ. (Australia); L. Gers, M. Goodwin, D. Gray, R. Heald, A. Heng, Australian Astronomical Observatory (Australia); D. Jones, Prime Optics (Australia); C. Kobayashi, Univ. of Hertfordshire (United Kingdom);

U. Klauser, Y. Condrat, J. Lawrence, S. Lee, D. Mathews, D. Mayfield, S. Miziarski, G. Monnet, R. Muller, N. Pai, R. Patterson, E. Penny, D. Orr, A. Sheinis, K. Shortridge, S. Smedley, G. Smith, D. Stafford, N. Staszak, M. Vuong, L. Waller, D. Whittard, Australian Astronomical Observatory (Australia); E. Wylie de Boer, Mount Stromlo Observatory, Australian National Univ. (Australia); P. Xavier, J. Zheng, R. Zhelem, Australian Astronomical Observatory (Australia); D. Zucker, Australian Astronomical Observatory (Australia) and Macquarie Univ. (Australia)

8446 OX **SAMI: a new multi-object IFS for the Anglo-Australian Telescope** [8446-31]
J. J. Bryant, Sydney Institute for Astronomy, The Univ. of Sydney (Australia) and CAASTRO (Australia); J. Bland-Hawthorn, Sydney Institute for Astronomy, The Univ. of Sydney (Australia); J. Lawrence, Australian Astronomical Observatory (Australia); S. Croom, Sydney Institute for Astronomy, The Univ. of Sydney (Australia) and CAASTRO (Australia); L. Fogarty, Sydney Institute for Astronomy, The Univ. of Sydney (Australia); M. Goodwin, Australian Astronomical Observatory (Australia); S. Richards, Sydney Institute for Astronomy, The Univ. of Sydney (Australia); T. Farrell, S. Miziarski, R. Heald, Australian Astronomical Observatory (Australia); H. Jones, Monash Univ. (Australia); S. Lee, M. Colless, M. Birchall, A. M. Hopkins, S. Brough, A. E. Bauer, Australian Astronomical Observatory (Australia)

8446 OY **Prime focus spectrograph: Subaru's future** [8446-32]
H. Sugai, H. Karoji, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); N. Takato, Subaru Telescope, National Astronomical Observatory of Japan (United States); N. Tamura, A. Shimono, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); Y. Ohya, Institute of Astronomy and Astrophysics (Taiwan); A. Ueda, National Astronomical Observatory of Japan (Japan); H. Ling, Institute of Astronomy and Astrophysics (Taiwan); M. Vital de Arruda, Lab. Nacional de Astrofísica (Brazil); R. H. Barkhouser, C. L. Bennett, The Johns Hopkins Univ. (United States); S. Bickerton, Princeton Univ. (United States); D. F. Braun, R. J. Bruno, Jet Propulsion Lab. (United States); M. A. Carr, Princeton Univ. (United States); R. G. Dekany, Caltech Optical Observatories (United States); T. P. Dominici, Lab. Nacional de Astrofísica (Brazil); R. S. Ellis, California Institute of Technology (United States); J. E. Gunn, Princeton Univ. (United States); T. Heckman, The Johns Hopkins Univ. (United States); P. T. P. Ho, Institute of Astronomy and Astrophysics (Taiwan); O. C. Le Fèvre, L. Martin, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France); H. Murayama, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); A. Cesar de Oliveira, Lab. Nacional de Astrofísica (Brazil); C. Mendes de Oliveira, Instituto de Astronomia, Univ. de São Paulo (Brazil); L. Souza de Oliveira, Lab. Nacional de Astrofísica (Brazil); J. D. Orndorff, The Johns Hopkins Univ. (United States); E. Prieto, Observatoire Astronomique de Marseille-Provence (France); M. D. Seiffert, Jet Propulsion Lab. (United States); S. A. Smee, The Johns Hopkins Univ. (United States); R. M. Smith, Caltech Optical Observatories (United States); L. Sodré, Instituto de Astronomia, Univ. de São Paulo (Brazil); S.-Y. Wang, C. H. Yan, Institute of Astronomy and Astrophysics (Taiwan)

SESSION 5 IMAGING SURVEYORS I

8446 OZ **Hyper Suprime-Cam** [8446-33]
S. Miyazaki, Y. Komiyama, H. Nakaya, Y. Kamata, Y. Doi, T. Hamana, National Astronomical Observatory of Japan (Japan); H. Karoji, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); H. Furusawa, S. Kawanomoto, National Astronomical Observatory of Japan (Japan); T. Morokuma, The Univ. of Tokyo (Japan);

Y. Ishizuka, K. Nariai, Y. Tanaka, F. Uraguchi, Y. Utsumi, Y. Obuchi, Y. Okura, National Astronomical Observatory of Japan (Japan); M. Oguri, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); T. Takata, D. Tomono, T. Kurakami, K. Namikawa, T. Usuda, H. Yamanoi, T. Terai, H. Uekiyo, Y. Yamada, M. Koike, National Astronomical Observatory of Japan (Japan); H. Aihara, Y. Fujimori, S. Mineo, H. Miyatake, The Univ. of Tokyo (Japan); N. Yasuda, J. Nishizawa, T. Saito, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); M. Tanaka, T. Uchida, KEK (Japan); N. Katayama, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); S.-Y. Wang, H.-Y. Chen, Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan); R. Lupton, C. Loomis, S. Bickerton, P. Price, J. Gunn, Princeton Univ. (United States); H. Suzuki, Y. Miyazaki, M. Muramatsu, K. Yamamoto, Hamamatsu Photonics K.K. (Japan); M. Endo, Y. Ezaki, N. Itoh, Mitsubishi Electric (Japan); Y. Miwa, H. Yokota, T. Matsuda, R. Ebinuma, K. Takeshi, Canon (Japan)

8446 10 **First light with RATIR: an automated 6-band optical/NIR imaging camera** [8446-34]
N. Butler, Arizona State Univ. (United States); C. Klein, Univ. of California, Berkeley (United States); O. Fox, NASA Goddard Space Flight Ctr. (United States); G. Lotkin, NASA Goddard Space Flight Ctr. (United States) and Global Science & Technology, Inc. (United States); J. Bloom, Univ. of California, Berkeley (United States); J. X. Prochaska, E. Ramirez-Ruiz, Univ. of California, Santa Cruz (United States); J. A. de Diego, L. Georgiev, J. González, W. H. Lee, M. G. Richer, C. Román, A. M. Watson, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); N. Gehrels, NASA Goddard Space Flight Ctr. (United States); A. Kutyrev, NASA Goddard Space Flight Ctr. (United States) and Univ. of Maryland (United States); R. Bernstein, Univ. of California, Santa Cruz (United States); L. C. Alvarez, U. Ceseña, D. Clark, E. Colorado, A. Córdova, A. Farah, B. García, G. Guisa, J. Herrera, F. Lazo, E. López, E. Luna, B. Martínez, F. M. Murillo, J. M. Murillo, J. Núñez, M. H. Pedrayes, F. Quirós, J. Ochoa, G. Sierra, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); H. Moseley, NASA Goddard Space Flight Ctr. (United States); D. Rapchun, NASA Goddard Space Flight Ctr. (United States) and Global Science & Technology, Inc. (United States); F. D. Robinson, NASA Goddard Space Flight Ctr. (United States) and Orbital Sciences Corp. (United States); M. V. Samuel, NASA Goddard Space Flight Ctr. (United States) and Global Science & Technology, Inc. (United States); L. M. Sparr, NASA Goddard Space Flight Ctr. (United States)

8446 11 **Status of the Dark Energy Survey Camera (DECam) project** [8446-35]
B. L. Flaugher, Fermi National Accelerator Lab. (United States); T. M. C. Abbott, Cerro Tololo Inter-American Observatory (Chile); R. Angstadt, J. Annis, Fermi National Accelerator Lab. (United States); M. L. Antonik, Univ. College London (United Kingdom); J. Bailey, Argonne National Lab. (United States); O. Ballester, Institut de Física d'Altes Energies (Spain); J. P. Bernstein, Argonne National Lab. (United States); R. Bernstein, UCO/Lick Observatory (United States); M. Bonati, G. Bremer, J. Briones, Cerro Tololo Inter-American Observatory (Chile); D. Brooks, Univ. College London (United Kingdom); E. J. Buckley-Geer, Fermi National Accelerator Lab. (United States); J. Campa, Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); L. Cardiel-Sas, Institut de Física d'Altes Energies (Spain); F. Castander, Institut de Ciències de l'Espai, CSIC (Spain); J. Castilla, Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); H. Cease, S. Chappa, E. C. Chi, Fermi National Accelerator Lab. (United States); L. da Costa, Observatório Nacional (Brazil); D. L. DePoy, Texas A&M Univ. (United States); G. Derylo, Fermi National Accelerator Lab. (United States); J. de Vicente, Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); H. T. Diehl, Fermi National Accelerator Lab. (United States); P. Doel, Univ. College London (United Kingdom); J. Estrada, Fermi National Accelerator Lab. (United States); J. Eiting, A. E. Elliott, The Ohio

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8446 13 **The Keck Cosmic Web Imager: a capable new integral field spectrograph for the W. M. Keck Observatory [8446-37]**

P. Morrissey, M. Matuszewski, C. Martin, California Institute of Technology (United States); A. Moore, Caltech Optical Observatories (United States); S. Adkins, W. M. Keck Observatory (United States); H. Epps, Univ. of California, Santa Cruz (United States); R. Bartos, Jet Propulsion Lab. (United States); J. Cabak, D. Cowley, UCO/Lick Observatory

(United States); J. Davis, A. Delacroix, J. Fucik, Caltech Optical Observatories (United States); D. Hilliard, UCO/Lick Observatory (United States); E. James, W. M. Keck Observatory (United States); S. Kaye, Caltech Optical Observatories (United States); N. Lingner, J. Neill, California Institute of Technology (United States); C. Pistor, D. Phillips, C. Rockosi, UCO/Lick Observatory (United States); B. Weber, Caltech Optical Observatories (United States)

SESSION 6 IMAGING SURVEYORS II

- 8446 14 **Design of FOSC for 360-cm Devasthal Optical Telescope** [8446-38]
A. Omar, R. K. S. Yadav, V. Shukla, Aryabhata Research Institute of Observational Sciences (India); S. Mondal, S. N. Bose National Ctr. for Basic Sciences (India); J. Pant, Aryabhata Research Institute of Observational Sciences (India)

SESSION 7 AIRBORNE INSTRUMENTS

- 8446 16 **The FORCAST mid-infrared facility instrument and in-flight performance on SOFIA** [8446-40]
J. D. Adams, T. L. Herter, G. E. Gull, J. Schoenwald, C. P. Henderson, Cornell Univ. (United States); L. D. Keller, Ithaca College (United States); J. M. De Buizer, USRA, NASA Ames Research Ctr. (United States); G. J. Stacey, T. Nikola, Cornell Univ. (United States); W. Vacca, USRA, NASA Ames Research Ctr. (United States); L. Hirsch, J. Wang, Cornell Univ. (United States); L. Helton, USRA, NASA Ames Research Ctr. (United States)
- 8446 17 **The SOFIA far-infrared spectrometer FIFI-LS: spearheading a post Herschel era** [8446-41]
S. Colditz, F. Fumi, Univ. of Stuttgart (Germany); N. Geis, R. Hönl, Max-Planck-Institut für extraterrestrische Physik (Germany); R. Klein, SOFIA-USRA, NASA Ames Research Ctr. (United States); A. Krabbe, Univ. of Stuttgart (Germany) and Deutsches SOFIA Institut (Germany); L. Looney, Univ. of Illinois (United States); A. Poglitsch, W. Raab, Max-Planck-Institut für extraterrestrische Physik (Germany); M. Savage, SOFIA-USRA, NASA Ames Research Ctr. (United States); F. Rebell, C. Fischer, Univ. of Stuttgart (Germany)
- 8446 18 **HIPO in-flight performance aboard SOFIA** [8446-42]
E. W. Dunham, T. A. Bida, P. L. Collins, G. I. Mandushev, Lowell Observatory (United States); I. S. McLean, Univ. of California, Los Angeles (United States); M. J. Person, Massachusetts Institute of Technology (United States); E. C. Smith, NASA Ames Research Ctr. (United States); B. W. Taylor, Boston Univ. (United States); S. Zoonematkermani, Lowell Observatory (United States)
- 8446 19 **FLITECAM: current status and results from observatory verification flights** [8446-43]
I. S. McLean, Univ. of California, Los Angeles (United States); E. C. Smith, NASA Ames Research Ctr. (United States); E. E. Becklin, USRA, NASA Ames Research Ctr. (United States); E. W. Dunham, Lowell Observatory (United States); J. W. Milburn, California Institute of Technology (United States); M. L. Savage, USRA, NASA Ames Research Ctr. (United States)
- 8446 1A **Preflight performance of the Echelon-Cross-Echelle spectrograph for SOFIA** [8446-282]
C. DeWitt, Univ. of California, Davis (United States) and NASA Ames Research Ctr. (United States); M. J. Richter, Univ. of California, Davis (United States); M. E. McKelvey, NASA Ames Research Ctr. (United States); A. Seifahrt, The Univ. of Chicago (United States); M. Case, J. Barthel, Univ. of California, Davis (United States); P. Zell, D. Lynch, NASA Ames Research Ctr. (United States)

SESSION 8 SOLAR INSTRUMENTS

- 8446 1B **ATST visible broadband imager** [8446-45]
W. R. McBride, F. Wöger, S. L. Hegwer, A. Ferayorni, B. S. Gregory, National Solar Observatory (United States)
- 8446 1C **Developments of the wideband spectropolarimeter of the Domeless Solar Telescope at Hida Observatory** [8446-46]
T. Anan, K. Ichimoto, A. Oi, G. Kimura, Y. Nakatani, S. Ueno, Kwasan and Hida Observatories (Japan)
- 8446 1D **SPIES: the spectropolarimetric imager for the energetic sun** [8446-47]
H. Lin, Institute for Astronomy, Univ. of Hawai'i (United States)

SESSION 9 ELT INSTRUMENTS I

- 8446 1F **The instrumentation program for the Thirty Meter Telescope (Invited Paper)** [8446-49]
L. Simard, Thirty Meter Telescope Project (United Kingdom) and Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); D. Crampton, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); B. Ellerbroek, C. Boyer, Thirty Meter Telescope Project (United States)
- 8446 1G **The instrument development and selection process for the Giant Magellan Telescope (Invited Paper)** [8446-50]
G. H. Jacoby, A. Bouchez, Giant Magellan Telescope Organization (United States); M. Colless, Australian Astronomical Observatory (Australia); D. DePoy, Texas A&M Univ. (United States); D. Fabricant, Harvard-Smithsonian Ctr. for Astrophysics (United States); P. Hinz, The Univ. of Arizona (United States); D. Jaffe, The Univ. of Texas at Austin (United States); M. Johns, P. McCarthy, Giant Magellan Telescope Organization (United States); P. McGregor, The Australian National Univ. (Australia); S. Shectman, Carnegie Observatories (United States); A. Szentgyorgyi, Harvard-Smithsonian Ctr. for Astrophysics (United States)

SESSION 10 ELT INSTRUMENTS II

- 8446 1H **The GMT-CfA, Carnegie, Catolica, Chicago Large Earth Finder (G-CLEF): a general purpose optical echelle spectrograph for the GMT with precision radial velocity capability** [8446-52]
A. Szentgyorgyi, Harvard-Smithsonian Ctr. for Astrophysics (United States); A. Frebel, Kavli Institute for Astrophysics and Space Research, Massachusetts Institute of Technology (United States); G. Fürész, E. Hertz, T. Norton, Harvard-Smithsonian Ctr. for Astrophysics (United States); J. Bean, The Univ. of Chicago (United States); H. Bergner, Harvard-Smithsonian Ctr. for Astrophysics (United States); J. Crane, Carnegie Observatories (United States); J. Evans, I. Evans, T. Gauron, Harvard-Smithsonian Ctr. for Astrophysics (United States); A. Jordán, Pontificia Univ. Católica de Chile (Chile); S. Park, Harvard-Smithsonian Ctr. for Astrophysics (United States); A. Uomoto, Carnegie Observatories (United States); S. Barnes, Stuart Barnes Optical Design (New Zealand); W. Davis, M. Eisenhower, Harvard-Smithsonian Ctr. for Astrophysics (United States); H. Epps, UCO/Lick Observatory (United States); D. Guzman, Pontificia Univ. Católica de Chile (Chile); K. McCracken, M. Ordway, D. Plummer, W. Podgorski, D. Weaver, Harvard-Smithsonian Ctr. for Astrophysics (United States)

- 8446 1I **GMT integral-field spectrograph (GMTIFS) conceptual design** [8446-53]
P. J. McGregor, G. J. Bloxham, R. Boz, J. Davies, M. Doolan, M. Ellis, J. Hart, The Australian National Univ. (Australia); D. J. Jones, Prime Optics (Australia); L. Luvaul, J. Nielsen, S. Parcell, R. Sharp, D. Stevanovic, P. J. Young, The Australian National Univ. (Australia)
- 8446 1J **The EAGLE instrument for the E-ELT: developments since delivery of Phase A** [8446-54]
S. L. Morris, Univ. of Durham (United Kingdom); J.-G. Cuby, Lab. d'Astrophysique de Marseille, CNRS, Aix Marseille Univ. (France); M. Dubbeldam, Univ. of Durham (United Kingdom); C. Evans, UK Astronomy Technology Ctr. (United Kingdom); T. Fusco, ONERA (France); P. Jagourel, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); R. Myers, Univ. of Durham (United Kingdom); P. Parr-Burman, UK Astronomy Technology Ctr. (United Kingdom); G. Rousset, LESIA, Observatoire de Paris, CNRS (France); H. Schnettler, UK Astronomy Technology Ctr. (United Kingdom)
- 8446 1K **Second-Earth imager for TMT (SEIT): concept and its numerical simulation** [8446-56]
T. Matsuo, Kyoto Univ. (Japan); T. Kotani, National Astronomical Observatory of Japan (Japan); N. Murakami, Hokkaido Univ. (Japan); H. Kawahara, Tokyo Metropolitan Univ. (Japan); Y. Fujii, The Univ. of Tokyo (Japan); S. Oya, Subaru Telescope, National Astronomical Observatory of Japan (United States); M. Kurita, N. Natsume, Kyoto Univ. (Japan); N. Narita, National Astronomical Observatory of Japan (Japan); K. Takizawa, National Institute for Basic Biology (Japan); M. Ikoma, The Univ. of Tokyo (Japan); J. Minagawa, National Institute for Basic Biology (Japan); N. Baba, Hokkaido Univ. (Japan); M. Tamura, National Astronomical Observatory of Japan (Japan)
- 8446 1L **The opto-mechanical design of HARMONI: a first light integral field spectrograph for the E-ELT** [8446-55]
N. A. Thatte, M. Tecza, Univ. of Oxford (United Kingdom); D. Freeman, Kidger Optics Associates (United Kingdom); A. M. Gallie, D. Montgomery, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); F. Clarke, Univ. of Oxford (United Kingdom); A. B. Fragoso-Lopez, J. Fuentes, Instituto de Astrofísica de Canarias (Spain); F. Gago, European Southern Observatory (Germany); A. Garcia, SENER Ingenieria y Sistemas (Spain); F. Gracia, Instituto de Astrofísica de Canarias (Spain); J. Kosmalski, Observatoire de Lyon (France); J. Lynn, Univ. of Oxford (United Kingdom); D. Sosa, Instituto de Astrofísica de Canarias (Spain); S. Arribas, Consejo Superior de Investigaciones Científicas (Spain); R. Bacon, Observatoire de Lyon (France); R. L. Davies, Univ. of Oxford (United Kingdom); T. Fusco, ONERA (France); D. Lunney, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); E. Mediavilla, Instituto de Astrofísica de Canarias (Spain); A. Remillieux, Ctr. Recherche Astrophysique de Lyon, Observatoire de Lyon (France); H. Schnettler, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom)

SESSION 11 ELT INSTRUMENTS III

- 8446 1M **METIS: the thermal infrared instrument for the E-ELT** [8446-57]
B. R. Brandl, Leiden Observatory, Leiden Univ. (Netherlands); R. Lenzen, Max-Planck-Institut für Astronomie (Germany); E. Pantin, CEA Saclay, DSM/DAPNIA/Service d'Astrophysique (France); A. Glasse, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); J. Blommaert, Katholieke Univ. Leuven (Belgium); M. Meyer, ETH Zürich (Switzerland); M. Guedel, Univ. of Vienna (Austria); L. Venema, NOVA - ASTRON (Netherlands); F. Molster, NOVA, Leiden Univ. (Netherlands) and Dutch Space (Netherlands); R. Stuik, E. Schmalzl, J. Meisner, Leiden Observatory, Leiden Univ. (Netherlands); E. Le Floch, CEA Saclay,

DSM/DAPNIA/Service d'Astrophysique (France); W. Brandner, S. Hippler, Max-Planck-Institut für Astronomie (Germany); I. Snellen, Leiden Observatory, Leiden Univ. (Netherlands); K. Pontoppidan, Space Telescope Science Institute (United States)

8446 1N **GMACS: a wide field, multi-object, moderate-resolution, optical spectrograph for the Giant Magellan Telescope** [8446-58]

D. L. DePoy, R. Allen, Texas A&M Univ. (United States); R. Barkhouser, The Johns Hopkins Univ. (United States); E. Boster, D. Carona, Texas A&M Univ. (United States); A. Harding, R. Hammond, The Johns Hopkins Univ. (United States); J. L. Marshall, Texas A&M Univ. (United States); J. Orndorff, The Johns Hopkins Univ. (United States); C. Papovich, K. Prochaska, T. Prochaska, J. P. Rheault, Texas A&M Univ. (United States); S. Smee, The Johns Hopkins Univ. (United States); S. Shectman, Carnegie Observatories (United States); S. Villanueva, Jr., Texas A&M Univ. (United States)

8446 1O **NIRMOS: a wide-field near-infrared spectrograph for the Giant Magellan Telescope** [8446-59]

D. Fabricant, R. Fata, W. R. Brown, B. McLeod, M. Mueller, T. Gauron, J. Roll, H. Bergner, J. Geary, V. Krادينov, T. Norton, M. Smith, J. Zajac, Harvard-Smithsonian Ctr. for Astrophysics (United States)

8446 1P **TIGER: a high contrast infrared imager for the Giant Magellan Telescope** [8446-60]

P. Hinz, J. Codona, O. Guyon, W. Hoffmann, A. Skemer, Steward Observatory, The Univ. of Arizona (United States); J. Hora, V. Tolls, Harvard-Smithsonian Ctr. for Astrophysics (United States); A. Boss, A. Weinberger, Carnegie Institution of Washington (United States); P. Arbo, T. Connors, O. Durney, T. McMahon, M. Montoya, V. Vaitheeswaran, Steward Observatory, The Univ. of Arizona (United States)

Part Two

SESSION 12 PLANET FINDERS I

8446 1R **ESPRESSO: the ultimate rocky exoplanets hunter for the VLT** [8446-62]

D. Mégevand, Observatoire de l'Univ. de Genève (Switzerland); F. M. Zerbi, INAF - Osservatorio Astronomico di Brera (Italy); A. Cabral, Univ. de Lisboa (Portugal); P. Di Marcantonio, INAF - Osservatorio Astronomico di Trieste (Italy); M. Amate, Instituto de Astrofísica de Canarias (Spain); F. Pepe, Observatoire de l'Univ. de Genève (Switzerland); S. Cristiani, INAF - Osservatorio Astronomico di Trieste (Italy); R. Rebolo, Instituto de Astrofísica de Canarias (Spain); N. C. Santos, Ctr. de Astrofísica da Univ. do Porto (Portugal); H. Dekker, European Southern Observatory (Germany); M. Abreu, Ctr. de Astronomia e Astrofísica, Univ. de Lisboa (Portugal); M. Affolter, Univ. of Bern (Switzerland); G. Avila, European Southern Observatory (Germany); V. Baldini, INAF - Osservatorio Astronomico di Trieste (Italy); P. Bristow, European Southern Observatory (Germany); C. Broeg, Univ. of Bern (Switzerland); P. Carvas, Univ. de Lisboa (Portugal); R. Cirami, INAF - Osservatorio Astronomico di Trieste (Italy); J. Coelho, Univ. de Lisboa (Portugal); M. Comari, INAF - Osservatorio Astronomico di Trieste (Italy); P. Conconi, INAF - Osservatorio Astronomico di Brera (Italy); I. Coretti, G. Cupani, V. D'Odorico, INAF - Osservatorio Astronomico di Trieste (Italy); V. De Caprio, INAF - Osservatorio Astronomico di Brera (Italy); B. Delabre, European Southern Observatory (Germany); P. Figueira, Ctr. de Astrofísica da Univ. do Porto (Portugal); M. Fleury, Observatoire de l'Univ. de Genève (Switzerland); A. Fragoso, Instituto de Astrofísica de Canarias (Spain); L. Genolet, Observatoire de l'Univ. de Genève (Switzerland); R. Gomes, Univ. of Lisbon (Portugal); J. Gonzalez Hernandez,

Instituto de Astrofísica de Canarias (Spain); I. Hughes, Observatoire de l'Univ. de Genève (Switzerland); O. Iwert, F. Kerber, European Southern Observatory (Germany); M. Landoni, INAF - Osservatorio Astronomico di Brera (Italy); J. Lima, Univ. of Lisbon (Portugal); J.-L. Lizon, European Southern Observatory (Germany); C. Lovis, C. Maire, Observatoire de l'Univ. de Genève (Switzerland); M. Mannetta, INAF - Osservatorio Astronomico di Trieste (Italy); C. Martins, Ctr. de Astrofísica da Univ. do Porto (Portugal); A. Moitinho, Univ. of Lisbon (Portugal); P. Molaro, INAF - Osservatorio Astronomico di Trieste (Italy); M. Monteiro, Ctr. de Astrofísica da Univ. do Porto (Portugal); J. L. Rasilla, Instituto de Astrofísica de Canarias (Spain); M. Riva, INAF - Osservatorio Astronomico di Brera (Italy); S. Santana Tschudi, Instituto de Astrofísica de Canarias (Spain); P. Santin, INAF - Osservatorio Astronomico di Trieste (Italy); D. Sosnowska, Observatoire de l'Univ. de Genève (Switzerland); S. Sousa, Ctr. de Astrofísica da Univ. do Porto (Portugal); P. Spanò, INAF - Osservatorio Astronomico di Brera (Italy); F. Tenegi, Instituto de Astrofísica de Canarias (Spain); G. Toso, INAF - Osservatorio Astronomico di Brera (Italy); E. Vanzella, M. Viel, INAF - Osservatorio Astronomico di Trieste (Italy); M. Zapatero Osorio, Ctr. de Astrobiología, Instituto Nacional de Técnica Aeroespacial (Spain)

- 8446 1S **The habitable-zone planet finder: a stabilized fiber-fed NIR spectrograph for the Hobby-Eberly Telescope** [8446-63]
 S. Mahadevan, L. Ramsey, C. Bender, R. Terrien, J. T. Wright, S. Halverson, The Pennsylvania State Univ. (United States); F. Hearty, M. Nelson, A. Burton, Univ. of Virginia (United States); S. Redman, National Institute of Standards and Technology (United States); S. Osterman, Univ. of Colorado at Boulder (United States); S. Diddams, National Institute of Standards and Technology (United States); J. Kasting, The Pennsylvania State Univ. (United States); M. Endl, McDonald Observatory, The Univ. of Texas at Austin (United States); R. Deshpande, The Pennsylvania State Univ. (United States)
- 8446 1T **Infrared Doppler instrument for the Subaru Telescope (IRD)** [8446-64]
 M. Tamura, National Astronomical Observatory of Japan (Japan) and GUAS (Japan); H. Suto, J. Nishikawa, T. Kotani, National Astronomical Observatory of Japan (Japan); B. Sato, TITECH (Japan); W. Aoki, National Astronomical Observatory of Japan (Japan); T. Usuda, Subaru Telescope, National Astronomical Observatory of Japan (United States); T. Kurokawa, K. Kashiwagi, Tokyo Univ. of Agriculture and Technology (Japan); S. Nishiyama, National Astronomical Observatory of Japan (Japan); Y. Ikeda, Photocoding (Japan); D. Hall, K. Hodapp, Institute for Astronomy, Univ. of Hawai'i (United States); J. Hashimoto, J. Morino, National Astronomical Observatory of Japan (Japan); S. Inoue, Y. Mizuno, Y. Washizaki, Y. Tanaka, S. Suzuki, Tokyo Univ. of Agriculture and Technology (Japan); J. Kwon, T. Suenaga, D. Oh, GUAS (Japan); N. Narita, E. Kokubo, National Astronomical Observatory of Japan (Japan); Y. Hayano, Subaru Telescope, National Astronomical Observatory of Japan (United States); H. Izumiura, E. Kambe, National Astronomical Observatory of Japan (Japan); T. Kudo, Subaru Telescope, National Astronomical Observatory of Japan (United States); N. Kusakabe, National Astronomical Observatory of Japan (Japan); M. Ikoma, The Univ. of Tokyo (Japan); Y. Hori, National Astronomical Observatory of Japan (Japan); M. Omiya, TITECH (Japan); H. Genda, The Univ. of Tokyo (Japan); A. Fukui, National Astronomical Observatory of Japan (Japan); Y. Fujii, The Univ. of Tokyo (Japan); O. Guyon, Subaru Telescope, National Astronomical Observatory of Japan (United States); H. Harakawa, TITECH (Japan); M. Hayashi, National Astronomical Observatory of Japan (Japan); M. Hidai, Tokai Univ. (Japan); T. Hirano, M. Kuzuhara, The Univ. of Tokyo (Japan); M. Machida, Kyusyu Univ. (Japan); T. Matsuo, T. Nagata, Kyoto Univ. (Japan); H. Ohnuki, TITECH (Japan); M. Ogiwara, Nagoya Univ. (Japan); S. Oshino, R. Suzuki, H. Takami, National Astronomical Observatory of Japan (Japan); N. Takato, Subaru Telescope, National Astronomical Observatory of Japan

(United States); Y. Takahashi, The Univ. of Tokyo (Japan); C. Tachinami, TITECH (Japan); H. Terada, Subaru Telescope, National Astronomical Observatory of Japan (United States)

8446 1U

The Gemini Planet Imager: integration and status [8446-65]

B. A. Macintosh, Lawrence Livermore National Lab. (United States); A. Anthony, J. Atwood, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); N. Barriga, Gemini Observatory (United States); B. Bauman, Lawrence Livermore National Lab. (United States); K. Caputa, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); J. Chilcote, Univ. of California, Los Angeles (United States); D. Dillon, Univ. of California at Berkeley (United States); R. Doyon, Univ. de Montréal (Canada); J. Dunn, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); D. T. Gavel, Univ. of California, Santa Cruz (United States); R. Galvez, S. J. Goodsell, Gemini Observatory (United States); J. R. Graham, Univ. of California at Berkeley (United States) and Jet Propulsion Lab. (United States); M. Hartung, Gemini Observatory (United States); J. Isaacs, Univ. of Wisconsin (United States); D. Kerley, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); Q. Konopacky, Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); K. Labrie, Gemini Observatory (United States); J. E. Larkin, Univ. of California, Los Angeles (United States); J. Maire, Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); C. Marois, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); M. Millar-Blanchaer, Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); B. R. Oppenheimer, American Museum of Natural History (United States); A. Nunez, Gemini Observatory (United States); D. W. Palmer, Lawrence Livermore National Lab. (United States); J. Pazder, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); M. Perrin, Space Telescope Science Institute (United States); L. A. Poyneer, Lawrence Livermore National Lab. (United States); C. Quiroz, F. Rantakyro, Gemini Observatory (United States); V. Reshetov, L. Saddlemyer, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); N. Sadakuni, Univ. of California at Berkeley (United States); D. Savransky, Lawrence Livermore National Lab. (United States); A. Sivaramakrishnan, Space Telescope Science Institute (United States); M. Smith, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); R. Soummer, Space Telescope Science Institute (United States); S. Thomas, Gemini Observatory (United States); J. K. Wallace, Jet Propulsion Lab. (United States); J. Weiss, Univ. of California, Los Angeles (United States); S. Wiktorowicz, Univ. of California at Berkeley (United States)

SESSION 13

PLANET FINDERS II

8446 1V

Harps-N: the new planet hunter at TNG [8446-66]

R. Cosentino, INAF - Telescopio Nazionale Galileo (Spain); C. Lovis, F. Pepe, Observatoire Astronomique de l'Univ. de Genève (Switzerland); A. Collier Cameron, Univ. of St. Andrews (United Kingdom); D. W. Latham, Harvard-Smithsonian Ctr. for Astrophysics (United States); E. Molinari, INAF - Telescopio Nazionale Galileo (Spain); S. Udry, Observatoire Astronomique de l'Univ. de Genève (Switzerland); N. Bezawada, M. Black, A. Born, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); N. Buchschacher, Observatoire Astronomique de l'Univ. de Genève (Switzerland); D. Charbonneau, Harvard-Smithsonian Ctr. for Astrophysics (United States); P. Figueira, Univ. do Porto (Portugal); M. Fleury, Observatoire Astronomique de l'Univ. de Genève (Switzerland); A. Galli, INAF - Telescopio Nazionale Galileo (Spain); A. Gallie, X. Gao, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); A. Ghedina, C. Gonzalez, M. Gonzalez, J. Guerra, INAF - Telescopio Nazionale Galileo (Spain); D. Henry, UK Astronomy Technology Ctr., Royal

Observatory (United Kingdom); K. Horne, Univ. of St Andrews (United Kingdom); I. Hughes, Observatoire Astronomique de l'Univ. de Genève (Switzerland); D. Kelly, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); M. Lodi, INAF - Telescopio Nazionale Galileo (Spain); D. Lunney, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); C. Maire, M. Mayor, Observatoire Astronomique de l'Univ. de Genève (Switzerland); G. Micela, INAF - Osservatorio Astronomico di Palermo (Italy); M. P. Ordway, Harvard-Smithsonian Ctr. for Astrophysics (United States); J. Peacock, Univ. of Edinburgh, Royal Observatory (United Kingdom); D. Phillips, Harvard-Smithsonian Ctr. for Astrophysics (United States); G. Piotto, Univ. degli Studi di Padova (Italy); D. Pollacco, Queen's Univ. (United Kingdom); D. Queloz, Observatoire Astronomique de l'Univ. de Genève (Switzerland); K. Rice, Univ. of Edinburgh, Royal Observatory (United Kingdom); C. Riverol, L. Riverol, J. San Juan, INAF - Telescopio Nazionale Galileo (Spain); D. Sasselov, Harvard-Smithsonian Ctr. for Astrophysics (United States); D. Segransan, Observatoire Astronomique de l'Univ. de Genève (Switzerland); A. Sozzetti, INAF - Osservatorio Astrofisico di Torino (Italy); D. Sosnowska, Observatoire Astronomique de l'Univ. de Genève (Switzerland); B. Stobie, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); A. Szentgyorgyi, Harvard-Smithsonian Ctr. for Astrophysics (United States); A. Vick, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); L. Weber, Observatoire Astronomique de l'Univ. de Genève (Switzerland)

8446 1W **Achieving a few cm/sec calibration repeatability for high resolution spectrographs: the laser frequency comb on HARPS** [8446-67]

G. Lo Curto, A. Manescau, G. Avila, L. Pasquini, European Southern Observatory (Germany); T. Wilken, T. Steinmetz, R. Holzwarth, Max-Planck-Institut für Quantenoptik (Germany) and Menlo Systems GmbH (Germany); R. Probst, T. Udem, T. W. Hänsch, Max-Planck-Institut für Quantenoptik (Germany); J. I. González Hernández, M. Esposito, R. Rebolo, Instituto de Astrofísica de Canarias (Spain); B. Canto Martins, J. R. de Medeiros, Univ. Federal do Rio Grande de Norte (Brazil)

8446 1X **A demonstration test of the dual-beam polarimetry differential imaging system for the high-contrast observation** [8446-68]

J. Dou, Nanjing Institute of Astronomical Optics & Technology (China); D. Ren, Nanjing Institute of Astronomical Optics & Technology (China) and California State Univ., Northridge (United States); Y. Zhu, X. Wang, X. Zhang, R. Li, Nanjing Institute of Astronomical Optics & Technology (China) and Graduate Univ. of Chinese Academy of Sciences (China)

SESSION 14 HIGH RESOLUTION AND AO INSTRUMENTS

8446 1Z **FIRST, a fibered aperture masking instrument: on-sky results** [8446-70]

E. Huby, G. Perrin, LESIA, Observatoire de Paris, CNRS, Univ. Paris-Diderot (France); F. Marchis, SETI Institute (United States); S. Lacour, LESIA, Observatoire de Paris, CNRS, Univ. Paris-Diderot (France); T. Kotani, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); G. Duchêne, Univ. of California, Berkeley (United States) and Institut de Planétologie et d'Astrophysique de Grenoble (France); E. Choquet, LESIA, Observatoire de Paris, CNRS, Univ. Paris-Diderot (France); E. Gates, Univ. of California Observatories/Lick Observatory (United States); J. Woillez, W. M. Keck Observatory (United States); O. Lai, Canada-France-Hawaii Telescope (United States)

- 8446 20 **The design of ERIS for the VLT** [8446-71]
P. Amico, E. Marchetti, European Southern Observatory (Germany); F. Pedichini, INAF - Osservatorio Astronomico di Roma (Italy); A. Baruffolo, INAF - Osservatorio Astronomico di Padova (Italy); B. Delabre, M. Duchateau, M. Ekinçi, European Southern Observatory (Germany); D. Fantinel, INAF - Osservatorio Astronomico di Padova (Italy); E. Fedrigo, G. Finger, C. Frank, European Southern Observatory (Germany); R. Hofmann, Max-Planck-Institut für extraterrestrische Physik (Germany); P. Jolley, J.-L. Lizon, M. Le Louarn, P. Madec, C. Soenke, European Southern Observatory (Germany); H. Weisz, Ing.-Bureau für den Maschinenbau (Germany)
- 8446 21 **AOLI, Adaptive Optics Lucky Imager: diffraction limited imaging in the visible on large ground-based telescopes** [8446-72]
C. Mackay, Institute of Astronomy, Univ. of Cambridge (United Kingdom); R. Rebolo-López, Instituto de Astrofísica de Canarias (Spain) and Consejo Superior de Investigaciones Científicas (Spain); B. Femenia Castellá, Univ. Politécnica de Cartagena (Spain); J. Crass, D. L. King, Institute of Astronomy, Univ. of Cambridge (United Kingdom); L. Labadie, Univ. zu Köln (Germany); P. Aisher, Institute of Astronomy, Univ. of Cambridge (United Kingdom); A. Pérez Garrido, Univ. Politécnica de Cartagena (Spain); M. Balcells, Isaac Newton Group of Telescopes (Spain); A. Díaz-Sánchez, Univ. Politécnica de Cartagena (Spain); J. Jimenez Fuensalida, R. L. Lopez, A. Oscoz, J. A. Pérez Prieto, L. F. Rodríguez-Ramos, Instituto de Astrofísica de Canarias (Spain); I. Villó, Univ. Politécnica de Cartagena (Spain)
- 8446 22 **15x optical zoom and extreme optical image stabilisation: diffraction limited integral field spectroscopy with the Oxford SWIFT spectrograph** [8446-73]
M. Tecza, N. Thatte, F. Clarke, J. Lynn, Univ. of Oxford (United Kingdom); D. Freeman, Kidger Optics Associates (United Kingdom); J. Roberts, Jet Propulsion Lab. (United States); R. Dekany, Caltech Optical Observatories (United States)
- 8446 23 **Compact high-resolution spectrographs for large and extremely large telescopes: using the diffraction limit** [8446-74]
J. G. Robertson, J. Bland-Hawthorn, Sydney Institute for Astronomy, The Univ. of Sydney (Australia)
- 8446 24 **Current status of FRIDA: diffraction limited NIR instrument for the GTC** [8446-75]
B. Sánchez, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); J. A. Acosta, Instituto de Astrofísica de Canarias (Spain); L. C. Álvarez, Univ. Nacional Autónoma de México (Mexico); V. Bringas, Ctr. de Ingeniería y Desarrollo Industrial (Mexico); N. Cardiel, Univ. Complutense de Madrid (Spain); A. Corrales, Ctr. de Ingeniería y Desarrollo Industrial (Mexico); S. Cuevas, O. Chapa, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); J. J. Díaz, Instituto de Astrofísica de Canarias (Spain); S. S. Eikenberry, Univ. of Florida (United States); C. Eliche, Univ. Complutense de Madrid (Spain); C. Espejo, R. Flores, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); F. Garzón, P. Hammersley, Instituto de Astrofísica de Canarias (Spain); C. Keiman, G. Lara, J. A. López, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); P. López, Instituto de Astrofísica de Canarias (Spain); D. Lucero, Ctr. de Ingeniería y Desarrollo Industrial (Mexico); J. M. Montoya, Ctr. de Ingeniería y Desarrollo Industrial (Mexico); H. Moreno, Instituto de Astrofísica de Canarias (Spain); S. Pascual, Univ. Complutense de Madrid (Spain); J. Patrón, A. Prieto, Instituto de Astrofísica de Canarias (Spain); N. Raines, Univ. of Florida (United States); A. Rodríguez, J. Uribe, Ctr. de Ingeniería y Desarrollo Industrial (Mexico); A. Watson, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico)

POSTER SESSION: NEW INSTRUMENTS AND UPGRADES/REPORTS ON EXISTING INSTRUMENTS

- 8446 25 **Design of a full-Stokes polarimeter for VLT/X-shooter** [8446-76]
F. Snik, G. van Harten, Leiden Observatory, Univ. Leiden (Netherlands); R. Navarro, NOVA - ASTRON (Netherlands); P. Groot, Radboud Univ. Nijmegen (Netherlands); L. Kaper, Astronomical Institute Anton Pannekoek, Univ. of Amsterdam (Netherlands); A. de Wijn, High Altitude Observatory (United States)
- 8446 26 **Concept of SPARC4: a simultaneous polarimeter and rapid camera in 4 bands** [8446-77]
C. V. Rodrigues, Instituto Nacional de Pesquisas Espaciais (Brazil); K. Taylor, Instruments4 (United States); F. J. Jablonski, Instituto Nacional de Pesquisas Espaciais (Brazil); M. Assafin, Observatório do Valongo (Brazil); A. Carciofi, Univ. de São Paulo (Brazil); D. Cieslinski, J. E. R. Costa, Instituto Nacional de Pesquisas Espaciais (Brazil); R. Dominguez, Univ. of Arizona (United States); T. P. Dominici, Lab. Nacional de Astrofísica (Brazil); G. A. P. Franco, Univ. Federal de Minas Gerais (Brazil); D. Jones, Prime Optics (Australia); A. Kanaan, Univ. Federal de Santa Catarina (Brazil); R. Laporte, Instituto Nacional de Pesquisas Espaciais (Brazil); A. M. Magalhaes, Univ. de São Paulo (Brazil); A. Milone, J. A. Neri, Instituto Nacional de Pesquisas Espaciais (Brazil); A. Pereyra, Instituto de Astrofísica de Canarias (Spain); L. Reitano, K. M. G. Silva, C. Strauss, Instituto Nacional de Pesquisas Espaciais (Brazil)
- 8446 28 **The F/5 instrumentation suite for the Clay Telescope** [8446-79]
A. Szentgyorgyi, B. McLeod, D. Fabricant, R. Fata, T. Norton, M. Ordway, J. Roll, H. Bergner, M. Conroy, Harvard-Smithsonian Ctr. for Astrophysics (United States); D. Curley, Google UK Ltd. (United Kingdom); H. Epps, UCO/Lick Observatory (United States); T. Gauron, J. Geary, M. Mueller, Harvard-Smithsonian Ctr. for Astrophysics (United States); A. Uomoto, Carnegie Observatories (United States); S. Amato, J. Barberis, R. Eng, G. Furesz, E. Hertz, Harvard-Smithsonian Ctr. for Astrophysics (United States); C. Hull, Giant Magellan Telescope Organization (United States); K. McCracken, G. Nystrom, Harvard-Smithsonian Ctr. for Astrophysics (United States); D. Osip, P. Palunas, F. Perez, F. Sanchez, Las Campanas Observatory (Chile); V. Suc, Pontificia Univ. Católica de Chile (Chile); D. Weaver, Harvard-Smithsonian Ctr. for Astrophysics (United States); D. Woods, MIT Lincoln Lab. (United States)
- 8446 29 **The AAO's Gemini High-Resolution Optical Spectrograph (GHOST) concept** [8446-80]
M. J. Ireland, Australian Astronomical Observatory (Australia) and Macquarie Univ. (Australia); S. Barnes, Stuart Barnes Optical Design (New Zealand); D. Cochrane, Industrial Research Ltd. (New Zealand); M. Colless, Australian Astronomical Observatory (Australia); P. Connor, Industrial Research Ltd. (New Zealand); A. Horton, Australian Astronomical Observatory (Australia); S. Gibson, Industrial Research Ltd. (New Zealand); J. Lawrence, S. Martell, Australian Astronomical Observatory (Australia); P. McGregor, The Australian National Univ. (Australia); T. Nicolle, K. Nield, Industrial Research Ltd. (New Zealand); D. Orr, Australian Astronomical Observatory (Australia); J. G. Robertson, Australian Astronomical Observatory (Australia) and Sydney Institute for Astronomy, The Univ. of Sydney (Australia); S. Ryder, A. Sheinis, G. Smith, N. Staszak, J. Tims, P. Xavier, Australian Astronomical Observatory (Australia); P. Young, The Australian National Univ. (Australia); J. Zheng, Australian Astronomical Observatory (Australia)

- 8446 2A **GRACES, the Gemini remote access CFHT ESPaDOnS spectrograph: initial design and testing** [8446-81]
E. V. Tollestrup, Gemini Observatory (United States); J. Pazder, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); G. Barrick, E. Martioli, Canada-France-Hawaii Telescope (United States); R. P. Schiavon, Gemini Observatory (United States); A. Anthony, M. Halman, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); C. Veillet, Canada-France-Hawaii Telescope (United States)
- 8446 2B **BASIS: Bayfordbury single-object integral field spectrograph** [8446-82]
S. Richards, W. Martin, D. Campbell, H. Jones, Univ. of Hertfordshire (United Kingdom); J. Bland-Hawthorn, Sydney Institute for Astronomy, The Univ. of Sydney (Australia); J. Lawrence, Australian Astronomical Observatory (Australia); E. Brinks, Univ. of Hertfordshire (United Kingdom); J. J. Bryant, Sydney Institute for Astronomy, The Univ. of Sydney (Australia) and ARC Ctr. of Excellence for All-sky Astrophysics (Australia); L. Fogarty, Sydney Institute for Astronomy, The Univ. of Sydney (Australia); M. Gallaway, Univ. of Hertfordshire (United Kingdom); M. Goodwin, Australian Astronomical Observatory (Australia); S. Leon-Saval, Sydney Institute for Astronomy, The Univ. of Sydney (Australia); M. Sarzi, D. J. Smith, Univ. of Hertfordshire (United Kingdom)
- 8446 2C **iSHELL: a 1-5 micron cross-dispersed R=70,000 immersion grating spectrograph for IRTF** [8446-83]
J. Rayner, T. Bond, M. Bonnet, Univ. of Hawaii (United States); D. Jaffe, The Univ. of Texas at Austin (United States); G. Muller, National Optical Astronomy Observatory (United States); A. Tokunaga, Univ. of Hawaii (United States)
- 8446 2D **The AAO fiber instrument data simulator** [8446-84]
M. Goodwin, T. Farrell, S. Smedley, R. Heald, J. Heijmans, G. De Silva, Australian Astronomical Observatory (Australia); D. Carollo, Macquarie Univ. (Australia)
- 8446 2E **Front end of the SPIRou spectropolarimeter for Canada-France Hawaii Telescope** [8446-85]
L. Parès, J. T. Donati, M. Dupieux, T. Gharsa, Y. Micheau, Univ. de Toulouse (France) and CNRS, Institut de Recherche en Astrophysique et Planétologie (France); M. Bouye, B. Dubois, G. Gallou, D. Kouach, Univ. de Toulouse (France); G. Barrick, Canada-France-Hawaii Telescope (United States); S.-Y. Wang, Institute of Astronomy and Astrophysics, Academia Sinica (Taiwan)
- 8446 2F **Pressure and temperature stabilization of an existing Echelle spectrograph III** [8446-87]
A. Brucalassi, Max-Planck-Institut für extraterrestrische Physik (Germany) and Univ. Observatory Munich (Germany); T. Feger, Univ. Observatory Munich (Germany); F. Grupp, Max-Planck-Institut für extraterrestrische Physik (Germany) and Univ. Observatory Munich (Germany); F. Lang-Bardl, Univ. Observatory Munich (Germany); S. Hu, Shandong Univ. at Weihai (China); U. Hopp, Univ. Observatory Munich (Germany); R. Bender, Max-Planck-Institut für extraterrestrische Physik (Germany) and Univ. Observatory Munich (Germany)
- 8446 2G **Gemini high-resolution optical spectrograph conceptual optical design** [8446-88]
J. Pazder, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); P. Desaulniers, Univ. Laval (Canada); P. Spanó, K. Szeto, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); S. Thibault, H. Zhang, Univ. Laval (Canada)

- 8446 2H **A single-shot optical linear polarimeter for asteroid studies** [8446-89]
C. Pernechele, OINAF - Osservatorio Astronomico di Padova (Italy); L. Abe, P. Bendjoya, Lab. Lagrange, CNRS, Univ. de Nice Sophia-Antipolis (France); A. Cellino, G. Massone, INAF - Osservatorio Astronomico di Torino (Italy); J. P. Rivet, Lab. Lagrange, CNRS, Univ. de Nice Sophia-Antipolis (France); P. Tanga, INAF - Osservatorio Astronomico di Torino (Italy)
- 8446 2I **Gemini high-resolution optical spectrograph conceptual mechanical design** [8446-90]
A. Hill, A. Anthony, J. Pazder, K. Szeto, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); S. Thibault, Univ. Laval (Canada)
- 8446 2J **RINGO3: a multi-colour fast response polarimeter** [8446-91]
D. M. Arnold, I. A. Steele, S. D. Bates, C. J. Mottram, R. J. Smith, Liverpool John Moores Univ. (United Kingdom)
- 8446 2K **ECHARPE mechanical design** [8446-93]
V. P. Macanhan, M. V. de Arruda, T. V. Martins, T. P. Dominici, B. V. Castilho, C. D. Gneiding, R. P. Campos, Lab. Nacional de Astrofísica (Brazil)
- 8446 2L **aTmcam: a simple atmospheric transmission monitoring camera for sub 1% photometric precision** [8446-94]
T. Li, D. L. DePoy, Texas A&M Univ. (United States); R. Kessler, The Univ. of Chicago (United States); D. L. Burke, SLAC National Accelerator Lab. (United States); J. L. Marshall, J. Wise, J.-P. Rheault, D. W. Carona, S. Boada, T. Prochaska, R. Allen, Texas A&M Univ. (United States)
- 8446 2M **Image quality tests on the Canarias InfraRed Camera Experiment (CIRCE)** [8446-95]
N. M. Lasso Cabrera, S. S. Eikenberry, A. Garner, S. N. Raines, Univ. of Florida (United States); M. V. Charcos-Llorens, Universities Space Research Association (United States); M. L. Edwards, LBT Observatory, Univ. of Arizona (Chile); A. Marin-Franch, Ctr. de Estudios de Física del Cosmos de Aragón (Spain)
- 8446 2N **Upgrading CRIRES-VLT to cross-dispersed mode** [8446-96]
E. Oliva, INAF - Osservatorio Astrofisico di Arcetri (Italy); A. Hatzes, Thüringer Landessternwarte (Germany); N. Piskunov, Uppsala Astronomical Observatory and Univ. (Sweden); A. Reiners, Georg-August-Univ. Göttingen (Germany); H. U. Käußl, European Southern Observatory (Germany); D. Ferruzzi, A. Tozzi, INAF - Osservatorio Astrofisico di Arcetri (Italy); L. Origlia, INAF - Osservatorio Astronomico di Bologna (Italy)
- 8446 2O **MSI: a visible multispectral imager for 1.6-m telescope of Hokkaido University** [8446-97]
M. Watanabe, Y. Takahashi, M. Sato, S. Watanabe, T. Fukuhara, K. Hamamoto, A. Ozaki, Hokkaido Univ. (Japan)
- 8446 2P **The MUSE instrument detector system** [8446-98]
R. Reiss, S. Deiries, J.-L. Lizon, G. Rupprecht, European Southern Observatory (Germany)
- 8446 2Q **Laboratory performance tests of PANIC, the panoramic NIR imager for Calar Alto** [8446-99]
J. W. Fried, A. Huber, C. Storz, U. Mall, V. Naranjo, P. Bizenberger, Max-Planck-Institut für Astronomie (Germany); M. C. Cárdenas Vazquez, Instituto de Astrofísica de Andalucía (Spain)

- 8446 2R **SPIRou @ CFHT: fiber links and pupil slicer** [8446-101]
Y. Micheau, Institut de Recherche en Astrophysique et Planétologie (France); F. Bouchy, Observatoire de Haute-Provence (France); F. Pepe, B. Chazelas, Observatoire de l'Univ. de Genève (Switzerland); D. Kouach, L. Parès, J.-F. Donati, Institut de Recherche en Astrophysique et Planétologie (France); G. Barrick, Canada-France-Hawaii Telescope (United States); P. Rabou, Institut de Planétologie et d'Astrophysique de Grenoble (France); S. Thibault, Univ. Laval (Canada); L. Saddlemyer, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); S. Perruchot, Observatoire de l'Univ. de Genève (France); X. Delfosse, Institut de Planétologie et d'Astrophysique de Grenoble (France); N. Striebig, G. Gallou, Institut de Recherche en Astrophysique et Planétologie (France); D. Loop, J. Pazder, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada)
- 8446 2S **Control and protection of outdoor embedded camera for astronomy** [8446-102]
F. Rigaud, I. Jegouzo, J. Gaudemard, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); J. Vaubaillon, IMCCE, CNRS, Observatoire de Paris (France)
- 8446 2T **Design and construction progress of LRS2-B: a new low resolution integral-field spectrograph for the Hobby-Eberly Telescope** [8446-103]
T. S. Chonis, The Univ. of Texas at Austin (United States); H. Lee, G. J. Hill, M. E. Cornell, S. E. Tuttle, B. L. Vattiat, McDonald Observatory, The Univ. of Texas at Austin (United States)
- 8446 2U **Optical design of a red-sensitive spectrograph** [8446-104]
E. C. Martin, D. L. DePoy, J. L. Marshall, Texas A&M Univ. (United States)
- 8446 2V **Optimal resolutions for optical and NIR spectroscopy** [8446-105]
S. Villanueva, Jr., D. L. DePoy, J. L. Marshall, Texas A&M Univ. (United States)
- 8446 2W **HexPak and GradPak: variable-pitch dual-head IFUs for the WIYN 3.5m Telescope Bench Spectrograph** [8446-106]
C. M. Wood, M. A. Bershady, A. D. Eigenbrot, S. A. Buckley, J. S. Gallagher III, E. J. Hooper, Univ. of Wisconsin-Madison (United States); A. I. Sheinis, Australian Astronomical Observatory (Australia); M. P. Smith, M. J. Wolf, Univ. of Wisconsin-Madison (United States)
- 8446 2Z **A new deep-depletion CCD for the red channel of the Palomar Double Spectrograph** [8446-109]
G. Rahmer, Caltech Optical Observatories (United States) and Large Binocular Telescope Observatory (United States); R. M. Smith, K. Bui, E. Kirby, R. Dekany, E. Croner, J. Milburn, Caltech Optical Observatories (United States)
- 8446 30 **SPIRou @ CFHT: spectrograph optical design** [8446-110]
S. Thibault, Univ. Laval (Canada); P. Rabou, Institut de Planétologie et d'Astrophysique de Grenoble (France); J.-F. Donati, Institut de Recherche en Astrophysique et Planétologie (France); P. Desaulniers, X. Dallaire, Univ. Laval (Canada); E. Artigau, Univ. de Montréal (Canada); F. Pepe, Observatoire de l'Univ. de Genève (Switzerland); Y. Micheau, Institut de Recherche en Astrophysique et Planétologie (France); P. Vallée, Univ. de Montréal (Canada); F. Pepe, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); G. Barrick, Canada-France-Hawaii Telescope (United States); V. A. Reshetov, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); O. Hernandez, Univ. de Montréal (Canada); L. Saddlemyer, J. Pazder, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); L. P. Parès, Institut de Recherche en Astrophysique et Planétologie (France); R. Doyon,

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- 8446 32 **STELIS mechanical design** [8446-113]
 R. Dominguez, Steward Observatory, The Univ. of Arizona (United States);
 V. B. P. Macanhan, B. V. Castilho, M. V. de Arruda, C. D. Gneiding, A. Klossek, N. Diniz,
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 Astrofísica (Brazil)
- 8446 33 **CARMENES. II: optical and opto-mechanical design** [8446-114]
 W. Seifert, Landessternwarte, Zentrum für Astronomie der Univ. Heidelberg (Germany);
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 Aeroespacial (Spain)
- 8446 34 **Performance verification of the ground-based mid-infrared camera MAX38 on the MiniTAO
 Telescope** [8446-115]
 K. Asano, T. Miyata, S. Sako, T. Kamizuka, T. Nakamura, M. Uchiyama, Institute of
 Astronomy, The Univ. of Tokyo (Japan); M. Yoneda, Tohoku Univ. (Japan); H. Katata,
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 K. Kawara, M. Tanaka, K. Motohara, T. Tanabe, T. Minezaki, T. Morokuma, Y. Tamura,
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 S. Koshida, H. Takahashi, Institute of Astronomy, The Univ. of Tokyo (Japan); T. Handa,
 Kagoshima Univ. (Japan); K. Tateuchi, Institute of Astronomy, The Univ. of Tokyo (Japan)
- 8446 35 **Gemini high-resolution optical spectrograph conceptual design** [8446-116]
 K. Szeto, A. McConnachie, A. Anthony, D. Bohlender, D. Crampton, Hertzberg Institute of
 Astrophysics, National Research Council of Canada (Canada); P. Desaulniers, Univ. Laval
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 (Canada); K. Venn, Univ. of Victoria (Canada); H. Zhang, Univ. Laval (Canada)

- 8446 36 **ECHARPE: a fiber-fed echelle spectrograph for the Pico dos Dias Observatory** [8446-117]
T. P. Dominici, B. Castilho, C. D. Gneiding, Lab. Nacional de Astrofísica (Brazil);
B. A. Delabre, European Southern Observatory (Germany); V. B. P. Macanhan,
M. V. de Arruda, A. C. de Oliveira, Lab. Nacional de Astrofísica (Brazil); J. Melendez, Univ.
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G. R. Quast, Lab. Nacional de Astrofísica (Brazil); G. F. Porto de Mello, Univ. Federal do Rio
de Janeiro (Brazil)
- 8446 38 **An experimental VLT cryo-cooler instrumentation vibration analysis** [8446-119]
G. Jakob, J.-L. Lizon, European Southern Observatory (Germany)
- 8446 39 **A simple, high efficiency, high resolution spectropolarimeter** [8446-120]
S. C. Barden, National Solar Observatory (United States)
- 8446 3A **CYCLOPS2: the fibre image slicer upgrade for the UCLES high resolution spectrograph**
[8446-121]
A. Horton, Australian Astronomical Observatory (Australia); C. G. Tinney, The Univ. of New
South Wales (Australia); S. Case, T. Farrell, L. Gers, Australian Astronomical Observatory
(Australia); D. Jones, Prime Optics (Australia); J. Lawrence, S. Miziaski, N. Staszak, D. Orr,
M. Vuong, L. Waller, R. Zhelem, Australian Astronomical Observatory (Australia)
- 8446 3B **Echelle gratings for the near-infrared** [8446-122]
K. H. Hinkle, R. R. Joyce, National Optical Astronomy Observatory (United States); B. Bach,
E. Bach, K. G. Bach, Bach Research Corp. (United States); B. M. Beam, Univ. of Arizona
(United States); G. Poculp, V. V. Smith, L. Wallace, National Optical Astronomy
Observatory (United States)
- 8446 3C **Fully optimized shaped pupils: preparation for a test at the Subaru Telescope** [8446-123]
A. Carlotti, N. Kasdin, Princeton Univ. (United States); F. Martinache, Subaru Telescope,
National Astronomical Observatory of Japan (United States); R. J. Vanderbei, E. J. Young,
G. Che, T. D. Groff, Princeton Univ. (United States); O. Guyon, Subaru Telescope, National
Astronomical Observatory of Japan (United States)
- 8446 3D **From the most plain coronagraph to the most populated spectrograph: a suite of some
new instruments for LBT** [8446-124]
D. Magrin, R. Ragazzoni, INAF - Osservatorio Astronomico di Padova (Italy); M. Bergomi,
INAF - Osservatorio Astronomico di Padova (Italy) and Univ. degli Studi di Padova (Italy);
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Padova (Italy); V. Viotto, INAF - Osservatorio Astronomico di Padova (Italy)
- 8446 3E **Optical bi-stable shutter development/improvement** [8446-125]
J.-L. Lizon, European Southern Observatory (Germany); N. Haddad, R. Castillo, European
Southern Observatory (Chile)
- 8446 3G **An integrated 1-5 micron test bench for the characterization of cryogenic optical elements**
[8446-128]
U. J. Wehmeier, J. Leisenring, Institute for Astronomy, ETH Zürich (Switzerland); O. Durney,
E. Solheid, Orion Labs, LLC (United States); G. A. Luppino, GL Scientific, Inc. (United States);
M. R. Meyer, Institute for Astronomy, ETH Zürich (Switzerland)

- 8446 3H **Demonstration and design of a compact diffraction limited spectrograph** [8446-129]
C. H. Betters, Institute of Photonics and Optical Science, The Univ. of Sydney (Australia) and Sydney Institute for Astronomy, The Univ. of Sydney (Australia); S. G. Leon-Saval, Institute of Photonics and Optical Science, The Univ. of Sydney (Australia); J. Bland-Hawthorn, Institute of Photonics and Optical Science, The Univ. of Sydney (Australia) and Sydney Institute for Astronomy, The Univ. of Sydney (Australia); G. Robertson, Sydney Institute for Astronomy, The Univ. of Sydney (Australia)
- 8446 3I **Redesign of the integrated photonic spectrograph for improved astronomical performance** [8446-130]
N. Cvetojevic, Macquarie Univ. (Australia) and Ctr. for Ultrahigh Bandwidth Devices for Optical Systems (Australia); N. Jovanovic, J. S. Lawrence, Macquarie Univ. (Australia) and Australian Astronomical Observatory (Australia); M. J. Withford, Macquarie Univ. (Australia) and Ctr. for Ultrahigh Bandwidth Devices for Optical Systems (Australia); J. Bland-Hawthorn, Sydney Institute for Astronomy, The Univ. of Sydney (Australia)
- 8446 3J **GNOSIS: a novel near-infrared OH suppression unit at the AAT** [8446-131]
C. Q. Trinh, Sydney Institute for Astronomy, The Univ. of Sydney (Australia); S. C. Ellis, Australian Astronomical Observatory (Australia) and Sydney Institute for Astronomy, The Univ. of Sydney (Australia); J. S. Lawrence, A. J. Horton, Australian Astronomical Observatory (Australia); J. Bland-Hawthorn, Sydney Institute for Astronomy, The Univ. of Sydney (Australia) and Institute of Photonics and Optical Science, The Univ. of Sydney (Australia); S. G. Leon-Saval, Institute of Photonics and Optical Science, The Univ. of Sydney (Australia); J. Bryant, Sydney Institute for Astronomy, The Univ. of Sydney (Australia) and CAASTRO (Australia); S. Case, M. Colless, Australian Astronomical Observatory (Australia); W. Couch, Swinburne Univ. of Technology (Australia); K. Freeman, Australian National Univ. (Australia); L. Gers, Australian Astronomical Observatory (Australia); K. Glazebrook, Swinburne Univ. of Technology (Australia); R. Haynes, innoFSPEC, Leibniz-Institut für Astrophysik Potsdam (Germany); S. Lee, Australian Astronomical Observatory (Australia); H. Löhmannsröben, innoFSPEC, Univ. Potsdam (Germany); S. Miziarski, Australian Astronomical Observatory (Australia); J. O'Byrne, The Univ. of Sydney (Australia); W. Rambold, M. M. Roth, innoFSPEC, Leibniz-Institut für Astrophysik Potsdam (Germany); B. Schmidt, The Australian National Univ. (Australia); K. Shortridge, S. Smedley, Australian Astronomical Observatory (Australia); C. G. Tinney, The Univ. of New South Wales (Australia); P. Xavier, J. Zheng, Australian Astronomical Observatory (Australia)

Part Three

- 8446 3N **A water vapour monitor at Paranal Observatory** [8446-135]
F. Kerber, European Southern Observatory (Germany); T. Rose, Radiometer Physics GmbH (Germany); A. Chacón, O. Cuevas, Univ. de Valparaiso (Chile); H. Czekala, Radiometer Physics GmbH (Germany); R. Hanuschik, European Southern Observatory (Germany); Y. Momany, J. Navarrete, European Southern Observatory (Chile); R. R. Queral, Univ. de Chile (Chile); A. Smette, European Southern Observatory (Chile); M. E. van den Ancker, European Southern Observatory (Germany); M. Cure, Univ. de Valparaiso (Chile); D. A. Naylor, Univ. of Lethbridge (Canada)

- 8446 3O **High resolution Florida IR silicon immersion grating spectrometer and an M dwarf planet survey** [8446-136]
J. Ge, S. Powell, B. Zhao, J. Wang, A. Fletcher, S. Schofield, J. Liu, Univ. of Florida (United States); M. Muterspaugh, Tennessee State Univ. (United States); C. Blake, Princeton Univ. (United States); R. Barnes, Univ. of Washington (United States)
- 8446 3P **Commissioning of the WWFI for the Wendelstein Fraunhofer Telescope** [8446-137]
C. Gössl, Univ.-Sternwarte München (Germany); R. Bender, Univ.-Sternwarte München (Germany) and Max-Planck-Institut für extraterrestrische Physik (Germany); M. Fabricius, Univ.-Sternwarte München (Germany); U. Hopp, Univ.-Sternwarte München (Germany) and Max-Planck-Institut für extraterrestrische Physik (Germany); A. Karasz, R. Kosyra, F. Lang-Bardl, Univ.-Sternwarte München (Germany)
- 8446 3Q **Testing of the "Tor Vergata" Fabry-Pérot interferometer prototype** [8446-138]
L. Giovannelli, F. Berrilli, M. Cocciolo, D. Del Moro, A. Egidi, R. Piazzesi, M. Stangalini, Univ. degli Studi di Roma Tor Vergata (Italy)
- 8446 3R **Commissioning results of MMT-POL: the 1-5 μ m imaging polarimeter leveraged from the AO secondary of the 6.5m MMT** [8446-144]
C. Packham, Univ. of Florida (United States) and Univ. of Texas San Antonio (United States); T. J. Jones, Univ. of Minnesota (United States); C. Warner, Univ. of Florida (United States); M. Krejny, D. Shenoy, T. Vonderharr, Univ. of Minnesota (United States); E. Lopez-Rodriguez, Univ. of Florida (United States); K. DeWahl, Univ. of Minnesota (United States)
- 8446 3S **New scientific results with SpLOMM: a testbed for CFHT's imaging Fourier transform spectrometer SITELE** [8446-145]
L. Drissen, A. Alarie, T. Martin, D. Lagrois, L. Rousseau-Nepton, A. Bilodeau, C. Robert, G. Joncas, Univ. Laval (Canada); J. Iglesias-Páramo, Instituto de Astrofísica de Andalucía (Spain)
- 8446 3T **The GIANO spectrometer: towards its first light at the TNG** [8446-146]
E. Oliva, INAF - Osservatorio Astrofisico di Arcetri (Italy); L. Origlia, INAF - Osservatorio Astronomico di Bologna (Italy); R. Maiolino, INAF - Osservatorio Astronomico di Roma (Italy); C. Baffa, V. Biliotti, INAF - Osservatorio Astrofisico di Arcetri (Italy); P. Bruno, INAF - Osservatorio Astrofisico di Catania (Italy); G. Falcini, V. Gavriousev, INAF - Osservatorio Astrofisico di Arcetri (Italy); F. Ghinassi, INAF - TNG, ORM Astronomical Observatory (Spain); E. Giani, INAF - Osservatorio Astrofisico di Arcetri (Italy); M. Gonzalez, INAF - TNG, ORM Astronomical Observatory (Spain); F. Leone, Univ. degli Studi di Catania (Italy); M. Lodi, INAF - TNG, ORM Astronomical Observatory (Spain); F. Massi, INAF - Osservatorio Astrofisico di Arcetri (Italy); I. Mochi, Lawrence Berkeley National Lab. (United States); P. Montegriffo, INAF - Osservatorio Astronomico di Bologna (Italy); M. Pedani, INAF - TNG, ORM Astronomical Observatory (Spain); E. Rossetti, Univ. degli Studi di Bologna (Italy); S. Scuderi, INAF - Osservatorio Astrofisico di Catania (Italy); M. Sozzi, A. Tozzi, INAF - Osservatorio Astrofisico di Arcetri (Italy)
- 8446 3U **Testing Giano spectral stability** [8446-147]
C. Baffa, E. Giani, E. Oliva, V. Biliotti, INAF - Osservatorio Astrofisico di Arcetri (Italy); L. Origlia, INAF - Osservatorio Astronomico di Bologna (Italy); M. Sozzi, A. Tozzi, INAF - Osservatorio Astrofisico di Arcetri (Italy)

- 8446 3V **Improved red sensitivity deep depletion e2v devices for the Gemini North GMOS instrument** [8446-148]
K. C. Roth, S. J. Kleinman, K. Chiboucas, R. Schiavon, K. Hanna, M. Rippa, J. K. White, B. Walls, C. Yamasaki, Gemini Observatory (United States); R. Murowinski, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); K. Labrie, Gemini Observatory (United States); G. Gimeno, M. Simpson, Gemini Observatory (Chile)
- 8446 3W **DeSSpOt: an instrument for stellar spin orientation determination** [8446-149]
A.-L. Lesage, M. Schneide, G. Wiedemann, Hamburger Sternwarte (Germany)
- 8446 3X **An alignment strategy for the optics of LINC-NIRVANA** [8446-150]
D. Meschke, T. Bertram, P. Bizenberger, Max-Planck-Institut für Astronomie (Germany)
- 8446 3Y **First light observation of GIGMICS (germanium immersion grating mid-infrared cryogenic spectrograph) by Kanata 1.5-m Telescope at Higashi-Hiroshima Observatory** [8446-152]
Y. Hirahara, K. Aoki, K. Ohta, S. Shibata, T. Hirao, Y. Tatamitani, N. Ebizuka, Nagoya Univ. (Japan); K. S. Kawabata, M. Yoshida, M. Uemura, T. Oosugi, Hiroshima Univ. (Japan); K. Kawaguchi, R. Fujimori, H. Ohiwa, H. Nagahiro, Okayama Univ. (Japan)
- 8446 3Z **An un-obscured four spherical mirrors based collimator as a tradeoff solution for the Optical Ground Support Equipment (OGSE) of the High Resolution Camera (HRIC) of Simbio-Sys** [8446-153]
M. Barilli, A. Bartoli, M. Dami, SELEX Galileo S.p.A. (Italy); E. Flamini, R. Formaro, Agenzia Spaziale Italiana (Italy); F. Grifoni, SELEX Galileo S.p.A. (Italy); F. Longo, Agenzia Spaziale Italiana (Italy); C. Pompei, SELEX Galileo S.p.A. (Italy)
- 8446 41 **Simulations and performances of AMICA at Dome C** [8446-155]
G. Di Rico, M. Dolci, G. Valentini, M. Cantiello, INAF - Osservatorio Astronomico di Teramo (Italy)
- 8446 43 **Characterizing near-infrared sky brightness in the Canadian high arctic** [8446-157]
S. Sivanandam, J. R. Graham, R. Abraham, Univ. of Toronto (Canada); A. Tekatch, Unihedron Inc. (Canada); E. Steinbring, National Research Council Canada (Canada); W. Ngan, Univ. of Toronto (Canada); D. L. Welch, McMaster Univ. (Canada) and Unihedron Inc. (Canada); N. M. Law, Univ. of Toronto (Canada)
- 8446 45 **AMICA at Dome C: results from the first year of automatic operation tests in Antarctica** [8446-159]
M. Dolci, A. Valentini, INAF - Osservatorio Astronomico di Teramo (Italy); M. Ragni, Angelatoni Industrie S.p.A. (Italy); A. Di Cianno, G. Di Rico, O. Straniero, INAF - Osservatorio Astronomico di Teramo (Italy); D. Romano, Univ. degli Studi di Roma La Sapienza (Italy); J. Christille, A. Piluso, Univ. degli Studi di Perugia (Italy)
- 8446 46 **A new Nasmyth mirror mechanism increases the number of focal stations of the Mercator Telescope** [8446-161]
G. Raskin, Instituut voor Sterrenkunde (Belgium); R. Dubosson, B. Michaud, Observatoire de l'Univ. de Genève (Switzerland); W. Pessemier, H. Van Winckel, Instituut voor Sterrenkunde (Belgium)

- 8446 47 **LINC-NIRVANA, integration of an interferometric and cryogenic camera: first verification results** [8446-162]
P. Bizenberger, H. Baumeister, A. Böhm, T. Herbst, A. Huber, W. Laun, U. Mall, L. Mohr, V. Naranjo, C. Storz, J. Trowitzsch, Max-Planck-Institut für Astronomie (Germany)
- 8446 48 **KiwiSpec - an advanced spectrograph for high resolution spectroscopy: prototype design and performance** [8446-164]
S. Gibson, Industrial Research Ltd. (New Zealand) and Univ. of Canterbury (New Zealand); S. I. Barnes, Stuart Barnes Optical Design (New Zealand); J. Hearnshaw, Univ. of Canterbury (New Zealand); K. Nield, D. Cochrane, D. Grobler, Industrial Research Ltd. (New Zealand)
- 8446 4A **A comparison of the mechanical design of fiber feeds for GRACES and GHOS** [8446-167]
A. Anthony, A. Hill, J. Pazder, K. Szeto, M. Halman, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); E. Tollestrup, Gemini Observatory (United States); G. Barrick, Canada-France-Hawaii Telescope (United States)
- 8446 4B **Tools for DIY site-testing** [8446-168]
F. Flores, R. Rondanelli, A. Abarca, M. Diaz, R. Querel, Univ. de Chile (Chile)
- 8446 4E **Cryogenic mechanical design: SPIROU spectrograph** [8446-171]
V. Reshetov, G. Herriot, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); S. Thibault, P. Désaulniers, Univ. Laval (Canada); L. Saddlemeyer, D. Loop, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada)
- 8446 4F **On-sky operations and performance of LMIRcam at the Large Binocular Telescope** [8446-172]
J. M. Leisenring, ETH Zürich (Switzerland); M. F. Skrutskie, Univ. of Virginia (United States); P. M. Hinz, A. Skemer, V. Bailey, J. Eisner, Steward Observatory, The Univ. of Arizona (United States); P. Garnavich, Univ. of Notre Dame (United States); W. F. Hoffmann, Steward Observatory, The Univ. of Arizona (United States); T. Jones, Univ. of Minnesota (United States); M. Kenworthy, Leiden Observatory, Leiden Univ. (Netherlands); P. Kuzmenko, Lawrence Livermore National Lab. (United States); M. Meyer, ETH Zürich (Switzerland); M. Nelson, Univ. of Virginia (United States); T. J. Rodigas, Steward Observatory, The Univ. of Arizona (United States); J. C. Wilson, Univ. of Virginia (United States); V. Vaitheeswaran, Steward Observatory, The Univ. of Arizona (United States)
- 8446 4G **ISAS: interferometric stratospheric astrometry for solar system** [8446-173]
M. Gai, INAF - Osservatorio Astrofisico di Torino (Italy); A. Fienga, Univ. de Franche-Comte (France); M. G. Lattanzi, A. Riva, A. Vecchiato, INAF - Osservatorio Astrofisico di Torino (Italy); D. Gallieni, A.D.S. International S.r.l. (Italy); S. Chaillot, Boostec Industries (Italy); S. Liori, D. Loreggia, INAF - Osservatorio Astrofisico di Torino (Italy)
- 8446 4H **Analysis of stellar radiance contamination in observed satellite spectra** [8446-174]
R. Vincent, F. K. Chun, M. E. Dearborn, R. D. Tipples, U.S. Air Force Academy (United States)
- 8446 4J **Enhanced spectral resolution via externally dispersed interferometry** [8446-177]
J. Edelstein, Space Sciences Lab., Univ. of California, Berkeley (United States); D. Erskine, Lawrence Livermore National Lab. (United States); M. Sirk, A. Vanderburg, E. H. Wishnow, Space Sciences Lab., Univ. of California, Berkeley (United States)

- 8446 4K **Khayyam: a tunable spatial heterodyne spectrometer for observing diffuse emission line targets** [8446-178]
S. Hosseini, W. Harris, J. Corliss, Univ. of California, Davis (United States)
- 8446 4L **Tips and tricks for aligning an image derotator** [8446-179]
A. Brunelli, M. Bergomi, Univ. degli Studi di Padova (Italy) and INAF - Osservatorio Astronomico di Padova (Italy); M. Dima, J. Farinato, D. Magrin, INAF - Osservatorio Astronomico di Padova (Italy); L. Maraffatto, Univ. degli Studi di Padova (Italy); R. Ragazzoni, V. Viotto, INAF - Osservatorio Astronomico di Padova (Italy); T. Bertram, P. Bizenberger, A. Conrad, T. Herbst, D. Meschke, Max-Planck-Institut für Astronomie (Germany)
- 8446 4M **A powerful ethernet interface module for digital camera control** [8446-374]
S. M. Amato, J. C. Geary, Smithsonian Astrophysical Observatory (United States)

POSTER SESSION: MULTI-OBJECT INSTRUMENTS

- 8446 4N **Hermes: the engineering challenges** [8446-30]
J. Brzeski, L. Gers, G. Smith, N. Staszak, Australian Astronomical Observatory (Australia)
- 8446 4O **Detectors and cryostat design for the SuMIRE Prime Focus Spectrograph (PFS)** [8446-180]
J. E. Gunn, M. Carr, Princeton Univ. (United States); S. A. Smee, J. D. Orndorff, R. H. Barkhouser, C. L. Bennett, The Johns Hopkins Univ. (United States); J. E. Greene, Princeton Univ. (United States); T. Heckman, The Johns Hopkins Univ. (United States); H. Karoji, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); O. LeFevre, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France); H.-H. Ling, Institute of Astronomy and Astrophysics (Taiwan); L. Martin, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France); B. Ménard, The Johns Hopkins Univ. (United States) and Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); H. Murayama, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); E. Prieto, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France); D. Spergel, M. A. Strauss, Princeton Univ. (United States); H. Sugai, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); A. Ueda, National Astronomical Observatory of Japan (Japan); S.-Y. Wang, Institute of Astronomy and Astrophysics (Taiwan); R. Wyse, N. Zakamska, The Johns Hopkins Univ. (United States)
- 8446 4P **A spectrograph instrument concept for the Prime Focus Spectrograph (PFS) on Subaru Telescope** [8446-181]
S. Vivès, D. Le Mignant, F. Madec, M. Jaquet, E. Prieto, L. Martin, O. Le Fèvre, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France); J. Gunn, M. Carr, Princeton Univ. (United States); S. Smee, R. Barkhouser, The Johns Hopkins Univ. (United States); H. Sugai, N. Tamura, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan)
- 8446 4Q **MEGARA: the future optical IFU and multi-object spectrograph for the 10.4m GTC telescope** [8446-182]
A. Gil de Paz, Univ. Complutense de Madrid (Spain); E. Carrasco, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); J. Gallego, Univ. Complutense de Madrid (Spain); F. M. Sánchez, Univ. Politécnica de Madrid (Spain); J. M. Vilchez Medina, Instituto de Astrofísica de Andalucía (Spain); M. García-Vargas, FRACTAL S.L.N.E (Spain);

X. Arrillaga, M. A. Carrera, Added Value Solutions (Spain); A. Castillo-Morales, Univ. Complutense de Madrid (Spain); E. Castillo-Domínguez, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); R. Cedazo, Univ. Politécnica de Madrid (Spain); C. Eliche-Moral, Univ. Complutense de Madrid (Spain); D. Ferrusca, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); E. González-Guardia, Univ. Politécnica de Madrid (Spain); M. Maldonado, FRACTAL S.L.N.E (Spain); R. A. Marino, Univ. Complutense de Madrid (Spain); I. Martínez-Delgado, FRACTAL S.L.N.E (Spain) and Ctr. de Astrobiología, Instituto Nacional de Técnica Aeroespacial (Spain); I. Morales Durán, Instituto de Astrofísica de Andalucía (Spain); E. Mújica, FRACTAL S.L.N.E (Spain); S. Pascual, Univ. Complutense de Madrid (Spain); A. Pérez-Calpena, FRACTAL S.L.N.E (Spain); A. Sánchez-Penim, Univ. Complutense de Madrid (Spain); E. Sánchez-Blanco, FRACTAL S.L.N.E (Spain); F. Serena, Univ. Politécnica de Madrid (Spain); S. Tulloch, FRACTAL S.L.N.E (Spain); V. Villar, J. Zamorano, Univ. Complutense de Madrid (Spain); D. Barrado y Navásquez, Ctr. de Astrobiología, Instituto Nacional de Técnica Aeroespacial (Spain); E. Bertone, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); N. Cardiel, A. Cava, Univ. Complutense de Madrid (Spain); J. Cenarro, Ctr. de Estudios de Física del Cosmos de Aragón (Spain); M. Chávez, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); M. García, Instituto de Astrofísica de Canarias (Spain); J. Guichard, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); R. Gúzman, Univ. of Florida (United States); A. Herrero, Instituto de Astrofísica de Canarias (Spain); N. Huélamo, Ctr. de Astrobiología, Instituto Nacional de Técnica Aeroespacial (Spain); D. Hughes, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); J. Iglesias, Instituto de Astrofísica de Andalucía (Spain); J. Jiménez-Vicente, Univ. de Granada (Spain); A. L. Aguerri, Instituto de Astrofísica de Canarias (Spain); D. Mayya, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); J. M. Abreu, Instituto de Astrofísica de Canarias (Spain); M. Mollá, Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); C. Muñoz-Tuñón, Instituto de Astrofísica de Canarias (Spain); S. Peimbert, M. Peimbert, Univ. Nacional Autónoma de México (Mexico); P. G. Pérez-González, Univ. Complutense de Madrid (Spain); E. Pérez Montero, Instituto de Astrofísica de Andalucía (Spain); M. Rodríguez, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); J. Rodríguez-Espinosa, Instituto de Astrofísica de Canarias (Spain); L. Rodríguez-Merino, D. Rosa, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); J. Sánchez-Almeida, Instituto de Astrofísica de Canarias (Spain); C. Sánchez Contreras, Ctr. de Astrobiología, Instituto Nacional de Técnica Aeroespacial (Spain); P. Sánchez-Blázquez, Univ. Autónoma de Madrid (Spain); S. Sánchez, Calar Alto Astronomical Observatory (Spain); A. Sarajedini, Univ. of Florida (United States); S. Silich, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); S. Simón, Instituto de Astrofísica de Canarias (Spain); G. Tenorio-Tagle, E. Terlevich, R. Terlevich, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); I. Trujillo, Instituto de Astrofísica de Canarias (Spain); Y. Tsamis, European Southern Observatory (Germany); O. Vega, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico)

8446 4R **FOCCoS for Subaru PFS [8446-183]**

A. Cesar de Oliveira, L. Souza de Oliveira, M. V. de Arruda, J. Bispo dos Santos, L. Souza Marrara, V. Bawden de Paula Macanhan, J. Batista de Carvalho Oliveira, R. de Paiva Vilaça, T. P. Dominici, Lab. Nacional de Astrofísica (Brazil); L. Sodré, C. Mendes de Oliveira, Univ. de São Paulo (Brazil); H. Karoji, H. Sugai, A. Shimono, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); N. Tamura, N. Takato, A. Ueda, Subaru Telescope, National Astronomical Observatory of Japan (United States)

- 8446 4S **The development of WIFIS: a wide integral field infrared spectrograph** [8446-184]
S. Sivanandam, R. C. Y. Chou, D. S. Moon, K. Ma, M. Millar-Blanchaer, S. S. Eikenberry, Univ. of Toronto (Canada); M.-Y. Chun, S. C. Kim, Korea Astronomy and Space Science Institute (Korea, Republic of); S. N. Raines, Univ. of Florida (United States); J. Eisner, Steward Observatory, The Univ. of Arizona (United States)
- 8446 4T **OSIRIS tunable imager and spectrograph for the GTC: from design to commissioning** [8446-185]
B. Sánchez, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); M. Aguilar-González, R. Barreto, S. Becerril, Instituto de Astrofísica de Canarias (Spain); J. Bland-Hawthorn, Anglo-Australian Observatory (Australia); A. Bongiovanni, Instituto de Astrofísica de Canarias (Spain); J. Cepa, Instituto de Astrofísica de Canarias (Spain) and Univ. de La Laguna (Spain); S. Correa, Instituto de Astrofísica de Canarias (Spain); O. Chapa, Univ. Nacional Autónoma de México (Mexico); A. Ederoclite, Instituto de Astrofísica de Canarias (Spain); C. Espejo, A. Farah, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); A. B. Fragoso, P. Fernández, Instituto de Astrofísica de Canarias (Spain); R. Flores, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); J. Fuentes, F. Gago, Instituto de Astrofísica de Canarias (Spain); F. Garfías, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); J. V. Gigante, Instituto de Astrofísica de Canarias (Spain); J. González, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); V. González-Escalera, B. Hernández, E. Hernandez, A. Herrera, G. Herrera, E. Joven, Instituto de Astrofísica de Canarias (Spain); R. Langarica, G. Lara, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); J. C. López, R. López, Instituto de Astrofísica de Canarias (Spain); C. Militellon, Univ. de La Laguna (Spain); H. Moreno, L. Peraza, A. Pérez, J. Pérez, J. L. Rasilla, J. Rosich, Instituto de Astrofísica de Canarias (Spain); C. Tejada, S. Tinoco, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); T. Vaz, A. Villegas, Instituto de Astrofísica de Canarias (Spain)
- 8446 4U **BATMAN: a DMD-based MOS demonstrator on Galileo Telescope** [8446-186]
F. Zamkotsian, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France); P. Spanò, INAF - Osservatorio Astronomico di Brera (Italy); W. Bon, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France); M. Riva, INAF - Osservatorio Astronomico di Brera (Italy); P. Lanzoni, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France); L. Nicastro, INAF - IASF Bologna (Italy); E. Molinari, R. Cosentino, A. Ghedina, M. Gonzalez, INAF - Telescopio Nazionale Galileo (Italy); P. Di Marcantonio, I. Coretti, R. Cirami, M. Manetta, INAF - Osservatorio Astronomico di Trieste (Italy); F. Zerbi, D. Tresoldi, INAF - Osservatorio Astronomico di Brera (Italy); L. Valenziano, INAF - IASF Bologna (Italy)
- 8446 4V **The design of the MOONS-VLT spectrometer** [8446-187]
E. Oliva, INAF - Osservatorio Astrofisico di Arcetri (Italy); E. Diolaiti, INAF - Osservatorio Astronomico di Bologna (Italy); B. Garilli, INAF - IASF Milano (Italy); R. Gratton, INAF - Osservatorio Astronomico di Padova (Italy); D. Lorenzetti, INAF - Osservatorio Astronomico di Roma (Italy); P. Schipani, INAF - Osservatorio Astronomico di Capodimonte (Italy); S. Scuderi, INAF - Osservatorio Astrofisico di Catania (Italy); E. Vanzella, INAF - Osservatorio Astronomico di Trieste (Italy); M. Cirasuolo, UK Astronomy Technology Ctr. (Italy); J. Afonso, Observatório Astronómico de Lisboa (Portugal); R. Bender, Univ.-Sternwarte München (Germany); P. Bonifacio, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); L. Kaper, Univ. van Amsterdam (Netherlands); L. Vanzì, Pontificia Univ. Católica de Chile (Chile); C. Baffa, INAF - Osservatorio Astrofisico di Arcetri (Italy); A. Bianco, INAF - Osservatorio Astronomico di Brera (Italy); C. Bonoli, F. Bortoletto, INAF - Osservatorio Astronomico di Padova (Italy); P. Bruno, INAF - Osservatorio Astrofisico di Catania (Italy);

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- 8446 4W **MOHAWK: a 4000-fiber positioner for DESpec** [8446-188]
W. Saunders, G. Smith, J. Gilbert, R. Muller, M. Goodwin, N. Staszak, J. Brzeski, S. Miziarski, M. Colless, Australian Astronomical Observatory (Australia)
- 8446 4X **High resolution spectrograph for the 4MOST facility** [8446-189]
S. Mignot, J.-P. Amans, M. Cohen, D. Horville, P. Jagourel, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France)
- 8446 4Y **M2FS: the Michigan/Magellan Fiber System** [8446-190]
M. Mateo, J. I. Bailey III, Univ. of Michigan (United States); J. Crane, S. Shectman, I. Thompson, I. Roederer, Carnegie Observatories (United States); B. Bigelow, Santa Cruz Instruments (United States); S. Gunnels, Paragon Engineering (United States)
- 8446 4Z **The metrology cameras for Subaru PFS and FMOS** [8446-191]
S.-Y. Wang, Y.-S. Hu, C.-H. Yan, Y.-C. Chang, Institute of Astronomy and Astrophysics, (Taiwan); N. Tamura, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); N. Takato, Subaru Telescope, National Astronomical Observatory of Japan (United States); A. Shimono, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); J. Karr, Y. Ohyama, H.-Y. Chen, H. Ling, Institute of Astronomy and Astrophysics (Taiwan); H. Karoji, H. Sugai, A. Ueda, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan)
- 8446 50 **A series of detector systems for MUSE** [8446-192]
J.-L. Lizon, European Southern Observatory (Germany); A. Kelz, Leibniz-Institut für Astrophysik Potsdam (Germany); C. Dupuy, M. Accardo, R. Reiss, S. Deiries, European Southern Observatory (Germany); T. Fechner, M. Srivastava, O. Streicher, P. Weillbacher, Leibniz-Institut für Astrophysik Potsdam (Germany); R. Hinterschuster, European Southern Observatory (Germany)

- 8446 51 **VIRUS spectrograph assembly and alignment procedures** [8446-193]
T. Prochaska, R. D. Allen, E. Boster, D. L. DePoy, B. Herbig, Texas A&M Univ. (United States); G. J. Hill, H. Lee, McDonald Observatory, The Univ. of Texas at Austin (United States); J. L. Marshall, E. C. Martin, W. Meador, J.-P. Rheault, Texas A&M Univ. (United States); S. E. Tuttle, B. L. Vattiat, McDonald Observatory, The Univ. of Texas at Austin (United States)
- 8446 52 **Integrating BigBOSS with the Mayall Telescope** [8446-194]
R. Besuner, Space Sciences Lab., Univ. of California, Berkeley (United States); C. Bebek, Lawrence Berkeley National Lab. (United States); A. Dey, W. Goble, D. Joyce, National Optical Astronomy Observatory (United States); M. E. Levi, Lawrence Berkeley National Lab. (United States); K. Reil, SLAC National Accelerator Lab. (United States); D. Schlegel, Lawrence Berkeley National Lab. (United States); M. Sholl, Space Sciences Lab., Univ. of California, Berkeley (United States)
- 8446 53 **Hector: a high-multiplex survey instrument for spatially resolved galaxy spectroscopy** [8446-195]
J. Lawrence, Australian Astronomical Observatory (Australia); J. Bland-Hawthorn, J. Bryant, The Univ. of Sydney (Australia); J. Brzeski, M. Colless, Australian Astronomical Observatory (Australia); S. Croom, The Univ. of Sydney (Australia); L. Gers, J. Gilbert, P. Gillingham, M. Goodwin, J. Heijmans, A. Horton, Australian Astronomical Observatory (Australia); M. Ireland, Australian Astronomical Observatory (Australia) and Macquarie Univ. (Australia); S. Miziarski, W. Saunders, G. Smith, Australian Astronomical Observatory (Australia)
- 8446 54 **A fast new cadioptric design for fiber-fed spectrographs** [8446-196]
W. Saunders, Australian Astronomical Observatory (Australia)
- 8446 55 **MEGARA spectrograph for the GTC: mechanical and opto-mechanical design** [8446-197]
M. Maldonado Medina, M. García-Vargas, FRACTAL S.L.N.E (Spain); A. Gil de Paz, Univ. Complutense de Madrid (Spain); E. Sánchez-Blanco Mancera, A. Pérez Calpena, FRACTAL S.L.N.E (Spain); J. Gallego Maestro, Univ. Complutense de Madrid (Spain); E. Carrasco Licea, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); F. Sánchez Moreno, Univ. Politécnica de Madrid (Spain); J. Vilchez Medina, Instituto de Astrofísica de Andalucía (Spain)
- 8446 56 **The Dark Energy Spectrometer: a potential multi-fiber instrument for the Blanco 4-meter Telescope** [8446-198]
J. L. Marshall, Texas A&M Univ. (United States); S. M. T. Kent, Fermi National Accelerator Lab. (United States) and The Univ. of Chicago (United States); H. T. Diehl, B. Flaugher, Fermi National Accelerator Lab. (United States); J. Frieman, R. G. Kron, Fermi National Accelerator Lab. (United States) and The Univ. of Chicago (United States); D. L. DePoy, Texas A&M Univ. (United States); M. Colless, W. Saunders, G. A. Smith, Australian Astronomical Observatory (Australia); O. Lahav, F. Abdalla, D. Brooks, P. Doel, D. Kirk, Univ. College London (United Kingdom); J. Annis, H. Lin, J. P. Marriner, Fermi National Accelerator Lab. (United States); S. Jouvel, Institut de Ciències de l'Espai, CSIC (Spain); M. D. Seiffert, Jet Propulsion Lab. (United States)

- 8446 57 **MIRADAS for the Gran Telescopio Canarias: system overview** [8446-199]
S. S. Eikenberry, J. G. Bennett, B. Chinn, H. V. Donoso, S. A. Eikenberry, E. Ettedgui, A. Fletcher, R. Frommeyer, A. Garner, M. Herlevich, N. Lasso, P. Miller, S. Mullin, C. Murphey, S. N. Raines, C. Packham, S. Schofield, R. D. Stelter, F. Varosi, C. Vega, C. Warner, Univ. of Florida (United States); F. Garzón, J. Rosich, Instituto de Astrofísica de Canarias (Spain); J. M. Gomez, J. Sabater, C. Vilar, J. Torra, Univ. de Barcelona (Spain); J. Gallego, N. Cardiel, C. Eliche, S. Pascual, Univ. Complutense de Madrid (Spain); O. Ballester, J. Illa, J. Jimenez, L. Cardiel-Sas, Institut de Física d'Altes Energies (Spain); J. Galipienzo, M. A. Carrera, Added Value Solutions (Spain); P. Hammersley, European Southern Observatory (Germany); S. Cuevas, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico)
- 8446 5A **MIRADAS control system** [8446-202]
J. Rosich Minguell, Instituto de Astrofísica de Canarias (Spain); F. Garzón Lopez, Instituto de Astrofísica de Canarias (Spain) and Univ. de La Laguna (Spain)
- 8446 5B **MEGARA spectrograph optics** [8446-203]
E. Carrasco, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); E. Sánchez-Blanco, M. L. García-Vargas, FRACTAL S.L.N.E (Spain); A. Gil de Paz, Univ. Complutense de Madrid (Spain); G. Páez, Ctr. de Investigaciones en Óptica, A.C. (Mexico); J. Gallego, Univ. Complutense de Madrid (Spain); F. M. Sánchez, Univ. Politécnica de Madrid (Spain); J. M. Vilchez, Instituto de Astrofísica de Andalucía (Spain)
- 8446 5D **Hyper Suprime-Cam: conceptual design to introduce spectroscopic mode** [8446-205]
Y. Komiyama, National Astronomical Observatory of Japan (Japan); Y. Tanaka, Subaru Telescope, National Astronomical Observatory of Japan (United States); S. Miyazaki, S. Kawanomoto, Y. Kamata, H. Nakaya, Y. Obuchi, F. Uraguchi, Y. Utsumi, National Astronomical Observatory of Japan (Japan)
- 8446 5E **MEGARA focal plane subsystems** [8446-206]
A. Pérez-Calpena, FRACTAL S.L.N.E (Spain); X. Arrillaga, AVS (Spain); A. Gil de Paz, Univ. Complutense de Madrid (Spain); E. Sánchez-Blanco, M. García-Vargas, FRACTAL S.L.N.E (Spain); M. A. Carrera, AVS (Spain); J. Gallego, Univ. Complutense de Madrid (Spain); E. Carrasco, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); F. M. Sanchez, Univ. Politécnica de Madrid (Spain); J. M. Vilchez, Instituto de Astrofísica de Andalucía (Spain)
- 8446 5F **The influence of motion and stress on optical fibers** [8446-207]
J. D. Murphy, The Univ. of Texas at Austin (United States); G. J. Hill, P. J. MacQueen, T. Taylor, McDonald Observatory, The Univ. of Texas at Austin (United States); I. Soukup, The Univ. of Texas at Austin (United States); W. Moreira, M. E. Cornell, J. Good, McDonald Observatory, The Univ. of Texas at Austin (United States); S. Anderson, L. Fuller, The Univ. of Texas at Austin (United States); H. Lee, McDonald Observatory, The Univ. of Texas at Austin (United States); A. Kelz, Leibniz-Institut für Astrophysik Potsdam (Germany); M. Rafal, T. Rafferty, S. Tuttle, B. Vattiat, McDonald Observatory, The Univ. of Texas at Austin (United States)

- 8446 5G **An adjustable slit mechanism for a fiber-fed multi-object spectrograph** [8446-208]
J. I. Bailey III, M. L. Mateo, Univ. of Michigan (United States); A. Bagish, J. Crane, Carnegie Observatories (United States); C. T. Slater, Univ. of Michigan (United States)
- 8446 5H **Methods for evaluating the performance of volume phase holographic gratings for the VIRUS spectrograph array** [8446-209]
T. S. Chonis, G. J. Hill, The Univ. of Texas at Austin (United States); J. Clemens, B. Dunlap, Univ. of North Carolina (United States); H. Lee, The Univ. of Texas at Austin (United States)

Part Four

- 8446 5K **VIRUS-W: commissioning and first-year results of a new integral field unit spectrograph dedicated to the study of spiral galaxy bulges** [8446-212]
M. H. Fabricius, F. Grupp, R. Bender, Ludwig-Maximilians Univ. (Germany) and Max-Planck-Institut für extraterrestrische Physik (Germany); N. Drory, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); J. Arns, Kaiser Optical Systems, Inc. (United States); S. Barnes, The Univ. of Texas at Austin (United States); C. Gössl, Ludwig-Maximilians Univ. (Germany); J. Snigula, Ludwig-Maximilians Univ. (Germany) and Max-Planck-Institut für extraterrestrische Physik (Germany); G. J. Hill, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); U. Hopp, Ludwig-Maximilians Univ. (Germany) and Max-Planck-Institut für extraterrestrische Physik (Germany); F. Lang-Bardl, Ludwig-Maximilians Univ. (Germany); P. J. MacQueen, McDonald Observatory, The Univ. of Texas at Austin (United States); R. Saglia, Max-Planck-Institut für extraterrestrische Physik (Germany); P. Wulstein, Max-Planck-Institut für Astrophysik (Germany)
- 8446 5L **LUCI in the sky: performance and lessons learned in the first two years of near-infrared multi-object spectroscopy at the LBT** [8446-214]
P. Buschkamp, Max-Planck-Institut für extraterrestrische Physik (Germany); W. Seifert, Landessternwarte, Zentrum für Astronomie der Univ. Heidelberg (Germany); K. Polsterer, Ruhr-Univ. Bochum (Germany); R. Hofmann, H. Gemperlein, R. Lederer, Max-Planck-Institut für extraterrestrische Physik (Germany); M. Lehmitz, V. Naranjo, Max-Planck-Institut für Astronomie (Germany); N. Ageorges, Kayser-Threde GmbH (Germany); J. Kurk, F. Eisenhauer, S. Rabien, M. Honsberg, R. Genzel, Max-Planck-Institut für extraterrestrische Physik (Germany)
- 8446 5M **The VIMOS upgrade programme** [8446-215]
P. Hammersley, H. Dekker, European Southern Observatory (Germany); F. Selman, European Southern Observatory (Chile); P. Bristow, European Southern Observatory (Germany); P. Bourget, European Southern Observatory (Chile); R. Brast, European Southern Observatory (Germany); R. Castillo, European Southern Observatory (Chile); M. Downing, C. E. Garcia-Dabo, European Southern Observatory (Germany); N. Haddad, European Southern Observatory (Chile); M. Hilker, C. Izzo, J.-L. Lizon, C. Lucuix, V. Mainieri, European Southern Observatory (Germany); S. Mieske, European Southern Observatory (Chile); D. Popovic, European Southern Observatory (Germany); C. Reinero, European Southern Observatory (Chile); M. Rejkuba, European Southern Observatory (Germany); C. Rojas, R. Sanchez-Janssen, A. Smette, J. Urrutia Del Rio, J. Valenzuela, European Southern Observatory (Chile); B. Wolff, European Southern Observatory (Germany)
- 8446 5N **Integration status of the configurable slit unit for GTC-EMIR** [8446-216]
M. Teuwen, H. Janssen, Janssen Precision Engineering B.V. (Netherlands); J. Casalta, NTE-SENER S.A. (Spain); F. Garzón Lopez, Instituto de Astrofísica de Canarias (Spain)

- 8446 5O **Vacuum and cryogenic system for the MUSE detectors** [8446-217]
J. L. Lizon, M. Accardo, D. Gojak, R. Reiss, L. Kern, European Southern Observatory (Germany)
- 8446 5P **4MOST spectral data simulation** [8446-218]
P. Sartoretti, N. Leclerc, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); J. Walcher, Astrophysikalisches Institut Potsdam (Germany); E. Caffau, L. Sbordone, Zentrum für Astronomie der Univ. Heidelberg (Germany); P. Laporte, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France)
- 8446 5Q **The measuring apparatus research for BigBOSS fiber-positioner** [8446-219]
Z. Zhou, Univ. of Science and Technology of China (China); M. Sholl, Univ. of California, Berkeley (United States); C. Schenk, J. Silber, C. Bebek, Lawrence Berkeley National Lab. (United States); C. Zhai, Univ. of Science and Technology of China (China)
- 8446 5R **Fore-optics of the MUSE instrument** [8446-220]
L. Parès, P. Couderc, M. Dupieux, T. Gharsa, M. Larrieu, H. Valentin, UPS-OMP, Univ. de Toulouse (France) and CNRS, IRAP (France); G. Gallou, CNRS, UPS-OMP, Univ. de Toulouse (France); R. Bacon, F. Laurent, M. Loupías, J. Kosmalski, Observatoire de Lyon, CNRS, Univ. de Lyon (France) and Ctr. de Recherche Astronomique de Lyon (France)
- 8446 5S **Initial results from VIRUS production spectrographs** [8446-221]
S. E. Tuttle, McDonald Observatory, The Univ. of Texas at Austin (United States); R. D. Allen, Texas A&M Univ. (United States); T. S. Chonis, The Univ. of Texas at Austin (United States); M. E. Cornell, McDonald Observatory, The Univ. of Texas at Austin (United States); D. L. DePoy, Texas A&M Univ. (United States); G. J. Hill, H. Lee, McDonald Observatory, The Univ. of Texas at Austin (United States); J. L. Marshall, T. Prochaska, Texas A&M Univ. (United States); M. D. Rafal, R. D. Savage, B. L. Vattiat, McDonald Observatory, The Univ. of Texas at Austin (United States)
- 8446 5T **Development and performance of the MUSE calibration unit** [8446-222]
A. Kelz, S. M. Bauer, T. Hahn, T. Jahn, Leibniz-Institut für Astrophysik Potsdam (Germany); J. Kosmalski, F. Laurent, Ctr. de Recherche Astronomique de Lyon (France); U. Laux, Thüringer Landessternwarte (Germany); M. Larrieu, Institut de Recherche en Astrophysique et Planétologie (France); M. Loupías, Ctr. de Recherche Astronomique de Lyon (France); J.-C. Olaya, E. Popow, M. M. Roth, M. Srivastava, O. Streicher, P. Weilbacher, Leibniz-Institut für Astrophysik Potsdam (Germany); R. M. Bacon, Ctr. de Recherche Astronomique de Lyon (France)
- 8446 5U **Performance of the main instrument structure and the optical relay system of MUSE** [8446-223]
H. E. Nicklas, H. Anwand, A. Fleischmann, C. Köhler, Georg-August-Univ. Göttingen (Germany); W. Xu, Optical System Engineering (Germany); W. Seifert, Landessternwarte, Zentrum für Astronomie der Univ. Heidelberg (Germany); F. Laurent, Ctr. de Recherche Astrophysique de Lyon (France)

- 8446 5V **MUSE instrument global performance test** [8446-224]
M. Loupías, J. Kosmalski, L. Adjali, R. Bacon, D. Boudon, L. Brotons, P. Caillier, L. Capoani, E. Daguisé, A. Jarno, G. Hansali, Observatoire de Lyon, CNRS, Univ. de Lyon (France); A. Kelz, Leibniz-Institut für Astrophysik Potsdam (Germany); F. Laurent, J. E. Migniau, A. Pécontal-Rousset, L. Piqueras, A. Remillieux, E. Renault, Observatoire de Lyon, CNRS, Univ. de Lyon (France); O. Streicher, P. Weilbacher, Leibniz-Institut für Astrophysik Potsdam (Germany); G. Zins, Institut de Planetologie et d'Astrophysique de Grenoble, CNRS, Univ. de Grenoble (France)
- 8446 5W **The impact of surface-polish on the angular and wavelength dependence of fiber focal ratio degradation** [8446-225]
A. D. Eigenbrot, M. A. Bershady, C. M. Wood, Univ. of Wisconsin-Madison (United States)
- 8446 5X **MUSE optical alignment procedure** [8446-226]
F. Laurent, Observatoire de Lyon, CNRS, Univ. de Lyon (France) and Ctr. de Recherche Astronomique de Lyon (France); E. Renault, M. Loupías, J. Kosmalski, Observatoire de Lyon, CNRS, Univ. de Lyon (France); H. Anwand, Institut für Astrophysik, Georg-August-Univ. Göttingen (Germany); R. Bacon, D. Boudon, P. Caillier, E. Daguisé, J.-P. Dubois, Observatoire de Lyon, CNRS, Univ. de Lyon (France); C. Dupuy, European Southern Observatory (Germany); A. Kelz, Leibniz-Institut für Astrophysik Potsdam (Germany); J.-L. Lizon, European Southern Observatory (Germany); H. Nicklas, Institut für Astrophysik, Georg-August-Univ. Göttingen (Germany); L. Parès, Institut de Recherche en Astrophysique et Planétologie, CNRS, Univ. de Toulouse (France); A. Remillieux, Observatoire de Lyon, CNRS, Univ. de Lyon (France); W. Seifert, Zentrum für Astronomie, Landessternwarte Heidelberg (Germany); H. Valentin, Institut de Recherche en Astrophysique et Planétologie, CNRS, Univ. de Toulouse (France); W. Xu, Optical System Engineering (France)
- 8446 5Y **Cryostat and CCD for MEGARA at GTC** [8446-227]
E. Castillo-Domínguez, D. Ferrusca Rodríguez, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); S. Tulloch, FRACTAL S.L.N.E (Spain); M. Velázquez, E. Carrasco, Instituto Nacional de Astrofísica, Óptica y Electrónica (Mexico); J. Gallego, A. Gil de Paz, Univ. Complutense de Madrid (Spain); F. M. Sánchez, Univ. Politécnica de Madrid (Spain); J. M. Vilchez Medina, Instituto de Astrofísica de Andalucía (Spain)
- 8446 5Z **A wide field corrector concept including an atmospheric dispersion corrector for the ESO-NTT** [8446-228]
F. Grupp, Max-Planck-Institut für extraterrestrische Physik (Germany) and Univ.-Sternwarte München (Germany); F. Lang-Bardl, Univ. Observatory Munich (Germany); R. Bender, Max-Planck-Institut für extraterrestrische Physik (Germany) and Univ.-Sternwarte München (Germany)
- 8446 60 **The LAMOST low resolution spectrograph stability performance** [8446-229]
Y. Hou, L. Wang, Z. Hu, J. Wang, Z. Tang, M. Jiang, Y. Zhu, Nanjing Institute of Astronomical Optics & Technology (China)
- 8446 61 **A fibre positioner solution for the 4MOST instrument** [8446-230]
F. Lang-Bardl, Univ.-Sternwarte München (Germany); R. Bender, F. Grupp, Univ.-Sternwarte München (Germany) and Max-Planck-Institut für extraterrestrische Physik (Germany); M. Häuser, H. J. Hess, V. Junk, R. Kosyra, B. Muschielok, J. Richter, J. Schlichter, C. Schwab, Univ.-Sternwarte München (Germany)

- 8446 62 **Hyper Suprime-Cam: the control system** [8446-231]
Y. Utsumi, National Astronomical Observatory of Japan (Japan) and Japan Society for the Promotion of Science (Japan); S. Kawanomoto, National Astronomical Observatory of Japan (Japan); P. Tait, E. Jeschke, Subaru Telescope, National Astronomical Observatory of Japan (United States); H. Furusawa, Y. Kamata, M. Koike, Y. Komiyama, S. Miyazaki, National Astronomical Observatory of Japan (Japan); T. Morokuma, The Univ. of Tokyo (Japan); F. Nakata, Subaru Telescope, National Astronomical Observatory of Japan (United States); H. Nakaya, F. Uraguchi, National Astronomical Observatory of Japan (Japan)
- 8446 63 **Hyper Suprime-Cam: filter exchange unit and shutter** [8446-232]
F. Uraguchi, National Astronomical Observatory of Japan (Japan); S.-Y. Wang, Institute of Astronomy and Astrophysics (Taiwan); Y. Komiyama, National Astronomical Observatory of Japan (Japan); E. J. Y. Liaw, C.-F. Chiu, Chung Shan Institute of Science and Technology (Taiwan); H.-Y. Chen, Institute of Astronomy and Astrophysics (Taiwan); C.-L. Ho, T.-C. Lai, Y.-C. Lee, D.-Z. Jeng, Chung Shan Institute of Science and Technology (Taiwan); S. Iwamura, MRJ (Japan); Y. Kamata, S. Kawanomoto, S. Miyazaki, National Astronomical Observatory of Japan (Japan); T. Morokuma, The Univ. of Tokyo (Japan); H. Nakaya, Y. Utsumi, National Astronomical Observatory of Japan (Japan)
- 8446 64 **VXMS: the VISTA extreme multiplex spectrograph** [8446-233]
R. Content, Australian Astronomical Observatory (Australia) and Univ. of Durham (United Kingdom); T. Shanks, R. Sharples, D. Bramall, Univ. of Durham (United Kingdom); W. Percival, Univ. of Portsmouth (United Kingdom)
- 8446 67 **BigBOSS: a stage IV dark energy redshift survey** [8446-237]
M. J. Sholl, Univ. of California, Berkeley (United States); M. R. Ackerman, Univ. of New Mexico (United States); C. Bebek, R. Besuner, Lawrence Berkeley National Lab. (United States); A. Dey, National Optical Astronomy Observatory (United States); J. Edelstein, P. Jelinsky, M. L. Lampton, Space Sciences Lab., Univ. of California, Berkeley (United States); M. E. Levi, Lawrence Berkeley National Lab. (United States); M. Liang, National Optical Astronomy Observatory (United States); P. Perry, N. Roe, J. Silber, D. Schlegel, Lawrence Berkeley National Lab. (United States)
- 8446 68 **The BigBOSS spectrograph** [8446-238]
P. Jelinsky, Univ. of California, Berkeley (United States); C. Bebek, Lawrence Berkeley National Lab. (United States); R. Besuner, Space Sciences Lab., Univ. of California, Berkeley (United States); P.-H. Carton, CEA Saclay (France); J. Edelstein, M. Lampton, Space Sciences Lab., Univ. of California, Berkeley (United States); M. E. Levi, C. Poppett, Lawrence Berkeley National Lab. (United States); E. Prieto, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France); D. Schlegel, Lawrence Berkeley National Lab. (United States); M. Sholl, Space Sciences Lab., Univ. of California, Berkeley (United States)
- 8446 69 **GMTNIRS mechanical design** [8446-301]
T. A. Beets, J. H. Beno, The Univ. of Texas at Austin (United States); M. Chun, S. Lee, C. Park, Korea Astronomy and Space Science Institute (Korea, Republic of); M. Rafal, McDonald Observatory, Univ. of Texas (United States); M. S. Worthington, The Univ. of Texas at Austin (United States); I. Yuk, Korea Astronomy and Space Science Institute (Korea, Republic of)

POSTER SESSION: IMAGING SURVEYORS/SOLAR INSTRUMENTATION/AIRBORNE INSTRUMENTATION

- 8446 6B **LSST camera optics design** [8446-240]
S. S. Olivier, V. J. Riot, Lawrence Livermore National Lab. (United States); D. K. Gilmore, SLAC National Accelerator Lab. (United States); B. Bauman, S. Pratuch, L. Seppala, Lawrence Livermore National Lab. (United States); J. Ku, M. Nordby, M. Foss, SLAC National Accelerator Lab. (United States); P. Antilogus, IN2P3 (France); N. Morgado, B. Sassolas, R. Flaminio, C. Michel, Lab. des Matériaux Avancés, IN2P3/CNRS (France)
- 8446 6C **Wide-field photometry at 20 Hz for the TAOS II Project** [8446-241]
J. C. Geary, Smithsonian Astrophysical Observatory (United States); S.-Y. Wang, Institute of Astronomy and Astrophysics (Taiwan); M. J. Lehner, Univ. of Pennsylvania (United States); P. Jorden, M. Fryer, e2v Technologies (United Kingdom)
- 8446 6D **The PAU camera and the PAU survey at the William Herschel Telescope** [8446-242]
F. J. Castander, Institut de Ciències de l'Espai, CSIC (Spain); O. Ballester, Institut de Física d'Altes Energies (Spain); A. Bauer, Institut de Ciències de l'Espai, CSIC (Spain); L. Cardiel-Sas, Institut de Física d'Altes Energies (Spain); J. Carretero, Port d'Informació Científica (Spain); R. Casas, Institut de Ciències de l'Espai, CSIC (Spain); J. Castilla, Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); M. Croce, Institut de Ciències de l'Espai, CSIC (Spain); M. Delfino, Port d'Informació Científica (Spain); M. Eriksen, Institut de Ciències de l'Espai, CSIC (Spain); E. Fernández, Institut de Física d'Altes Energies (Spain); P. Fosalba, Institut de Ciències de l'Espai, CSIC (Spain); J. García-Bellido, Instituto de Física teórica, CSIC (Spain); E. Gaztañaga, Institut de Ciències de l'Espai, CSIC (Spain); F. Grañena, C. Hernández, J. Jiménez, L. López, P. Martí, Institut de Física d'Altes Energies (Spain); R. Miquel, Institut de Física d'Altes Energies (Spain) and ICREA (Spain); C. Neissner, Port d'Informació Científica (Spain); C. Padilla, C. Pío, Institut de Física d'Altes Energies (Spain); R. Ponce, E. Sanchez, Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); S. Serrano, Institut de Ciències de l'Espai, CSIC (Spain); I. Sevilla, Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); N. Tonello, Port d'Informació Científica (Spain); J. de Vicente, Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain)
- 8446 6E **A 3 degree prime focus field for the AAT** [8446-244]
P. Gillingham, Australian Astronomical Observatory (Australia)
- 8446 6F **Assembly, alignment, and testing of the DECam wide field corrector optics** [8446-245]
P. Doel, D. Brooks, M. L. Antonik, Univ. College London (United Kingdom); B. L. Flaugher, A. Stefanik, S. M. Kent, G. Gutierrez, Fermi National Accelerator Lab. (United States); H. P. Cease, T. M. Abbott, A. R. Walker, Cerro Tololo Inter-American Observatory (Chile); D. L. DePoy, Texas A&M Univ. (United States); R. A. Bernstein, UCO/Lick Observatory (United States); S. Worswick, Observatory Optics Ltd. (United Kingdom)
- 8446 6G **Design of the KMTNet large format CCD camera** [8446-246]
B. Atwood, T. P. O'Brien, C. Colarosa, J. Mason, M. O. Johnson, D. Pappalardo, M. Derwent, S. Schaller, The Ohio State Univ. (United States); C.-U. Lee, S.-L. Kim, B.-G. Park, S.-M. Cha, Korea Astronomy and Space Science Institute (Korea, Republic of); P. Jorden, S. Darby, A. Walker, R. Renshaw, e2v technologies plc (United Kingdom)

- 8446 6H **T80Cam: the wide field camera for the OAJ 83-cm telescope** [8446-247]
A. Marin-Franch, Ctr. de Estudios de Física del Cosmos de Aragón (Spain); K. Taylor, Univ. de São Paulo (Brazil); J. Cepa, Instituto de Astrofísica de Canarias (Spain); R. Laporte, Instituto Nacional de Pesquisas Espaciais (Brazil); A. Cenarro, S. Chueca, D. Cristobal-Hornillos, A. Ederoclite, N. Gruel, J. Hernández-Fuertes, A. López-Sainz, R. Luis-Simoes, Ctr. de Estudios de Física del Cosmos de Aragón (Spain); M. Moles, Ctr. de Estudios de Física del Cosmos de Aragón (Spain) and Instituto de Astrofísica de Andalucía (Spain); F. Rueda-Teruel, S. Rueda-Teruel, J. Varela, A. Yanes-Díaz, Ctr. de Estudios de Física del Cosmos de Aragón (Spain); N. Benitez, Instituto de Astrofísica de Andalucía (Spain); R. Dupke, Observatório Nacional (Brazil); A. Fernández-Soto, Instituto de Física de Cantabria (Spain); C. Mendes de Oliveira, Univ. de São Paulo (Brazil); G. Sims, Spectral Instruments, Inc. (United States); L. Sodré, Jr., Univ. de São Paulo (Brazil); K. Toerne, Spectral Instruments, Inc. (United States)
- 8446 6J **Transport and installation of the Dark Energy Survey CCD imager** [8446-249]
G. Derylo, E. Chi, H. Diehl, J. Estrada, B. Flaugher, K. Schultz, Fermi National Accelerator Lab. (United States)
- 8446 6K **Square-core bundles for astronomical imaging** [8446-250]
J. J. Bryant, Sydney Institute for Astronomy, The Univ. of Sydney (Australia) and CAASTRO (Australia); J. Bland-Hawthorn, Sydney Institute for Astronomy, The Univ. of Sydney (Australia)
- 8446 6L **KWFC: four square degrees camera for the Kiso Schmidt Telescope** [8446-251]
S. Sako, The Univ. of Tokyo (Japan); T. Aoki, Kiso Observatory, Institute of Astronomy, The Univ. of Tokyo (Japan); M. Doi, N. Ienaka, N. Kobayashi, The Univ. of Tokyo (Japan); N. Matsunaga, H. Mito, Kiso Observatory, Institute of Astronomy, The Univ. of Tokyo (Japan); T. Miyata, T. Morokuma, Y. Nakada, The Univ. of Tokyo (Japan); T. Soyano, K. Tarusawa, Kiso Observatory, Institute of Astronomy, The Univ. of Tokyo (Japan); S. Miyazaki, National Astronomical Observatory of Japan (Japan); F. Nakata, Subaru Telescope, National Astronomical Observatory of Japan (United States); N. Okada, National Astronomical Observatory of Japan (Japan); Y. Sarugaku, Japan Aerospace Exploration Agency (Japan); M. W. Richmond, Rochester Institute of Technology (United States)
- 8446 6M **Spectrophotometric calibration system for DECam** [8446-252]
J.-P. Rheault, D. L. DePoy, J. L. Marshall, T. Prochaska, R. Allen, J. Wise, E. Martin, P. Williams, Texas A&M Univ. (United States)
- 8446 6N **Test benches facilities for PAUCam: CCDs and filters characterization** [8446-253]
J. Jiménez, O. Ballester, L. Cardiel-Sas, Institut de Física d'Altes Energies (Spain); R. Casas, Institut de Ciències de l'Espai, CSIC (Spain); J. Castilla, Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); F. Grañena, Institut de Física d'Altes Energies (Spain); J. de Vicente, Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain); M. Maiorino, Institut de Física d'Altes Energies (Spain); I. Sevilla, Ctr. de Investigaciones Energéticas, Medioambientales y Tecnológicas (Spain)
- 8446 6O **Focus and alignment of the Dark Energy Camera using out-of-focus stars** [8446-254]
A. Roodman, Stanford Univ. (United States)

- 8446 6P **Development of MIMIZUKU: a mid-infrared multi-field imager for 6.5-m TAO telescope** [8446-255]
T. Kamizuka, T. Miyata, S. Sako, Institute of Astronomy, The Univ. of Tokyo (Japan); T. Nakamura, The Univ. of Tokyo (Japan); K. Asano, M. Uchiyama, K. Okada, Institute of Astronomy, The Univ. of Tokyo (Japan); T. Onaka, I. Sakon, The Univ. of Tokyo (Japan); H. Kataza, Y. Sarugaku, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); Y. Yoshii, M. Doi, K. Kohno, K. Kawara, M. Tanaka, K. Motohara, T. Tanabe, T. Minezaki, T. Morokuma, Y. Tamura, T. Aoki, T. Soyano, K. Tarusawa, N. Kato, M. Konishi, H. Takahashi, S. Koshida, The Univ. of Tokyo (Japan); K. Tateuchi, Institute of Astronomy, The Univ. of Tokyo (Japan); T. Handa, Kagoshima Univ. (Japan)
- 8446 6Q **Hyper Suprime-Cam: implementation and performance of the cryogenic dewar** [8446-256]
Y. Obuchi, Y. Komiyama, Y. Kamata, S. Kawanomoto, S. Miyazaki, National Astronomical Observatory of Japan (Japan); T. Morokuma, The Univ. of Tokyo (Japan); H. Nakaya, F. Uraguchi, National Astronomical Observatory of Japan (Japan); Y. Utsumi, The Univ. of Tokyo (Japan)
- 8446 6R **The test of the 10k x 10k CCD for Antarctic Survey Telescopes (AST3)** [8446-257]
B. Ma, National Astronomical Observatories (China); Z. Shang, Tianjin Normal Univ. (China) and National Astronomical Observatories (China); L. Wang, Purple Mountain Observatory (China) and Texas A&M Univ. (United States); K. Boggs, Semiconductor Technology Associates (United States); Y. Hu, Q. Liu, Q. Song, S. Xue, National Astronomical Observatories (China)
- 8446 6S **Commissioning and initial performance of the Dark Energy Camera liquid nitrogen cooling system** [8446-259]
H. Cease, Fermi National Accelerator Lab. (United States); D. DePoy, Texas A&M Univ. (United States); G. Derylo, H. T. Diehl, J. Estrada, B. Flaugher, K. Kuk, Fermi National Accelerator Lab. (United States); S. Kuhlmann, Argonne National Lab. (United States); A. Lathrop, K. Schultz, R. J. Reinert, R. L. Schmitt, A. Stefanik, Fermi National Accelerator Lab. (United States); A. Zhao, Argonne National Lab. (United States)
- 8446 6T **Multi-purpose grating spectrograph for the 4-meter European Solar Telescope** [8446-260]
A. Calcines, M. Collados, Instituto de Astrofísica de Canarias (Spain); A. Feller, Max-Planck-Institut für Sonnensystemforschung (Germany); B. Gelly, Themis (Spain); B. Grauf, J. Hirzberger, Max-Planck-Institut für Sonnensystemforschung (Germany); A. López Ariste, Themis (Spain); R. L. Lopez, Instituto de Astrofísica de Canarias (Spain); P. Mein, F. Sayède, Observatoire de Paris (France)
- 8446 6U **Development and produce of ground-based reflecting coronagraph for solar applications** [8446-261]
S. A. Chuprakov, P. G. Papushev, Institute of Solar-Terrestrial Physics (Russian Federation)
- 8446 6V **Wide-field Solc-type birefringent filter** [8446-262]
V. I. Skomorovsky, G. I. Kushtal, V. P. Sadokhin, Institute of Solar-Terrestrial Physics (Russian Federation)
- 8446 6W **A broad band imager for the European Solar Telescope** [8446-263]
M. Munari, S. Scuderi, INAF - Osservatorio Astrofisico di Catania (Italy); M. Cecconi, INAF - Fundación Galileo Galilei (Italy)

- 8446 6X **Preliminary design of the visible spectro-polarimeter for the Advanced Technology Solar Telescope** [8446-264]
A. G. de Wijn, R. Casini, National Ctr. for Atmospheric Research (United States);
P. G. Nelson, Sierra Scientific Solutions (United States); P. Huang, Consultant (United States)
- 8446 6Z **The S4I prototype: a beam-slicer system dedicated to the new generation multichannel subtractive double pass for EST imaging spectropolarimetry** [8446-266]
F. Sayède, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); P. Mein, LESIA, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); J. Amans, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); J. Moity, LESIA, Observatoire de Paris, CNRS, Univ. Paris Diderot (France)
- 8446 70 **Polarimeter with a high-speed rotating waveplate for the solar observation** [8446-267]
Y. Hanaoka, National Astronomical Observatory of Japan (Japan)
- 8446 71 **Design and status of an optical and near-infrared spectrometer for the IRSF 1.4m Telescope** [8446-268]
T. Nagayama, Nagoya Univ. (Japan); M. Kurita, Kyoto Univ. (Japan); M. Kino, D. Mori, T. Kokusho, Nagoya Univ. (Japan)
- 8446 72 **Design, testing, and performance of the Hobby Eberly Telescope prime focus instrument package** [8446-269]
B. Vattiat, G. J. Hill, H. Lee, D. M. Perry, M. D. Rafal, T. Rafferty, R. Savage, C. A. Taylor, W. Moreira, McDonald Observatory, The Univ. of Texas at Austin (United States); M. Smith, Univ. of Wisconsin-Madison (United States)
- 8446 73 **An optical and near-infrared multipurpose instrument HONIR** [8446-270]
K. Sakimoto, H. Akitaya, Hiroshima Univ. (Japan); T. Yamashita, National Astronomical Observatory of Japan (Japan); K. S. Kawabata, Hiroshima Univ. (Japan); H. Nakaya, National Astronomical Observatory of Japan (Japan); H. Miyamoto, Molex Japan Co., Ltd. (Japan); T. Harao, R. Itoh, R. Matsui, Y. Moritani, Hiroshima Univ. (Japan); A. Nakashima, Graduate School of Science, The Univ. of Tokyo (Japan) and National Astronomical Observatory of Japan (Japan); T. Ohsugi, Hiroshima Univ. (Japan); M. Sasada, Kyoto Univ. (Japan); K. Takaki, I. Ueno, Hiroshima Univ. (Japan); T. Ui, Hiroshima Univ. (Japan) and National Astronomical Observatory of Japan (Japan); T. Urano, M. Yoshida, Hiroshima Univ. (Japan)
- 8446 74 **Preliminary design of a multi-slit image slicer for EST** [8446-271]
A. Calcines, R. L. López, M. Collados, Instituto de Astrofísica de Canarias (Spain)
- 8446 75 **HELLRIDE: a new interferometric multiline instrument for the analysis of the solar atmosphere** [8446-272]
J. Staiger, Kiepenheuer-Institut für Sonnenphysik (Germany)
- 8446 76 **PICARD SOL mission, a ground-based facility for long-term solar radius measurement** [8446-273]
M. Meftah, A. Irbah, LATMOS, CNRS, Univ. Paris VI (France); T. Corbard, F. Morand, CNRS, Univ. de Nice Sophia Antipolis (France); G. Thuillier, A. Hauchecorne, LATMOS, CNRS, Univ. Paris VI (France); R. Ikhlef, CNRS, Univ. de Nice Sophia Antipolis (France); M. Rouze, CNES (France); C. Renaud, CNRS, Univ. Paris VI (France); D. Djafer, Unité de Recherche Appliquée en Energies Renouvelables (Algeria); S. Abbaki, LATMOS, CNRS, Univ. Paris VI (France); P. Assus, B. Chauvineau, CNRS, Univ. Paris VI (France); E. M. Cissé, F. Dalaudier,

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8446 77 **The visible tunable filtergraph for the ATST** [8446-274]

T. J. Kentischer, W. Schmidt, O. von der Lühe, M. Sigwarth, Kiepenheuer-Institut für Sonnenphysik (Germany); A. Bell, C. Halbgewachs, A. Fischer, Kiepenheuer Institut für Sonnenphysik (Germany)

8446 78 **The chromosphere and prominence magnetometer** [8446-275]

A. G. de Wijn, C. Bethge, S. Tomczyk, S. McIntosh, National Ctr. for Atmospheric Research (United States)

8446 79 **The GREGOR Fabry-Perot interferometer: status report and prospects** [8446-276]

K. G. Puschmann, H. Balthasar, Leibniz-Institut für Astrophysik Potsdam (Germany); C. Beck, Instituto de Astrofísica de Canarias (Spain); R. E. Louis, E. Popow, Leibniz-Institut für Astrophysik Potsdam (Germany); T. Seelemann, LaVision GmbH (Germany); R. Volkmer, Albert-Ludwigs-Univ. Freiburg (Germany); M. Woche, C. Denker, Leibniz-Institut für Astrophysik Potsdam (Germany)

8446 7A **The Large-Scale Polarization Explorer (LSPE)** [8446-277]

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8446 7B **NIMBUS: the Near-infrared Multi-Band Ultraprecise Spectroimager for SOFIA** [8446-278]
 M. W. McElwain, A. Mandell, B. Woodgate, NASA Goddard Space Flight Ctr. (United States); D. S. Spiegel, Institute for Advanced Study (United States); N. Madhusudhan, Yale Univ. (United States); E. Amatuucci, NASA Goddard Space Flight Ctr. (United States); C. Blake, Princeton Univ. (United States); J. Budinoff, NASA Goddard Space Flight Ctr. (United States); A. Burgasser, Univ. of California, San Diego (United States); A. Burrows, Princeton Univ. (United States); M. Clampin, NASA Goddard Space Flight Ctr. (United States); C. Conroy, Harvard-Smithsonian Ctr. for Astrophysics (United States); L. Deming, NASA Goddard Space Flight Ctr. (United States); E. Dunham, Lowell Observatory (United States); R. Foltz, Q. Gong, NASA Goddard Space Flight Ctr. (United States); H. Knutson, California Institute of Technology (United States); T. Muench, NASA Goddard Space Flight Ctr. (United States); R. Murray-Clay, Harvard-Smithsonian Ctr. for Astrophysics (United States); H. Peabody, B. Rauscher, S. Rinehart, NASA Goddard Space Flight Ctr. (United States); G. Villanueva, Catholic Univ. of America (United States)

8446 7C **A coherent polarimeter array for the Large Scale Polarization Explorer (LSPE) balloon experiment** [8446-279]
 M. Bersanelli, A. Mennella, Univ. degli Studi di Milano (Italy) and INAF-IASF Bologna (Italy); G. Morgante, INAF - IASF Bologna (Italy); M. Zannoni, Univ. degli Studi di Milano Bicocca (Italy); G. Addamo, CNR-IEIT, Politecnico di Torino (Italy); A. Baschiroto, Univ. degli Studi di Milano Bicocca (Italy); P. Battaglia, Univ. degli Studi di Milano (Italy); A. Baù, Univ. degli Studi di Milano Bicocca (Italy); B. Cappellini, Univ. degli Studi di Milano (Italy) and INAF-IASF Bologna (Italy); F. Cavaliere, Univ. degli Studi di Milano (Italy); F. Cuttaia, INAF - IASF Bologna (Italy); F. Del Torto, Univ. degli Studi di Milano (Italy); S. Donzelli, INAF - IASF Milano (Italy); Z. Farooqui, CNR-IEIT, Politecnico di Torino (Italy); M. Frailis, INAF - Osservatorio Astronomico di Trieste (Italy); C. Franceschet, Univ. degli Studi di Milano (Italy); E. Franceschi, INAF - IASF Bologna (Italy); T. Gaier, Jet Propulsion Lab. (United States); S. Galeotta, INAF - Osservatorio Astronomico di Trieste (Italy); M. Gervasi, Univ. degli Studi di Milano Bicocca (Italy); A. Gregorio, Univ. degli Studi di Trieste (Italy) and INAF - Osservatorio Astronomico di Trieste (Italy); P. Kangaslahti, Jet Propulsion Lab. (United States); N. Krachmalnicoff, Univ. degli Studi di Milano (Italy); C. Lawrence, Jet Propulsion Lab. (United States); G. Maggio, INAF - Osservatorio Astronomico di Trieste (Italy); R. Mainini, Univ. degli Studi di Milano Bicocca (Italy); D. Maino, Univ. degli Studi di Milano (Italy) and INAF-IASF Bologna (Italy); N. Mandolesi, INAF - IASF Bologna (Italy); B. Paroli, Univ. degli Studi di Milano (Italy); A. Passerini, Univ. degli Studi di Milano Bicocca (Italy); O. A. Peverini, CNR-IEIT, Politecnico di Torino (Italy); S. Poli, Univ. degli Studi di Milano (Italy); S. Ricciardi, INAF - IASF Bologna (Italy); M. Rossetti, Univ. degli Studi di Milano (Italy); M. Sandri, INAF - IASF Bologna (Italy); M. Seiffert, Jet Propulsion Lab. (United States); L. Stringhetti, INAF - IASF Milano (Italy); A. Tartari, Univ. degli Studi di Milano Bicocca (Italy); R. Tascone, CNR-IEIT, Politecnico di Torino (Italy); D. Tavagnacco, INAF - Osservatorio Astronomico di Trieste (Italy); L. Terenzi, INAF - IASF Bologna (Italy); M. Tomasi, INAF - IASF Milano (Italy); E. Tommasi, Agenzia Spaziale Italiana (Italy); F. Villa, INAF - IASF Bologna (Italy); G. Virone, CNR-IEIT, Politecnico di Torino (Italy); A. Zacchei, INAF - Osservatorio Astronomico di Trieste (Italy)

Part Five

- 8446 7D **Development of a new calibration method for ground-based Paschen-alpha imaging data** [8446-283]
K. Tateuchi, K. Motohara, M. Konishi, H. Takahashi, N. Kato, Institute of Astronomy, The Univ. of Tokyo (Japan); R. Ohsawa, The Univ. of Tokyo (Japan); K. Yutaro, Y. Yoshii, M. Doi, Institute of Astronomy, The Univ. of Tokyo (Japan); T. Handa, Kagoshima Univ. (Japan); K. Kohno, K. Kawara, M. Tanaka, T. Miyata, T. Minezaki, S. Sako, T. Tanabe, T. Morokuma, Y. Tamura, Institute of Astronomy, The Univ. of Tokyo (Japan); T. Aoki, T. Soyano, K. Tarusawa, Kiso Observatory, Institute of Astronomy, The Univ. of Tokyo (Japan); S. Koshida, T. Kamizuka, T. Nakamura, K. Asano, M. Uchiyama, Institute of Astronomy, The Univ. of Tokyo (Japan)
- 8446 7E **DiffRACT: differential remapped aperture coronagraphic telescope** [8446-284]
F. Allouche, European Southern Observatory (Germany) and CNRS, Univ. de Nice Sophia-Antipolis, Observatoire de la Cote d'Azur (France); M. Hadjara, CNRS, Univ. de Nice Sophia-Antipolis, Observatoire de la Cote d'Azur (France) and CRAAG (Algeria); Y. Kok, Sydney Institute for Astronomy, The Univ. of Sydney (Australia); F. Vakili, L. Abe, P. M. Gori, CNRS, Univ. de Nice Sophia-Antipolis, Observatoire de la Cote d'Azur (France)
- 8446 7F **Modified modular imaging system designed for a sounding rocket experiment** [8446-285]
T. J. Veach, P. A. Scowen, Arizona State Univ. (United States); M. Beasley, Univ. of Colorado at Boulder (United States); S. Nikzad, Jet Propulsion Lab. (United States)

POSTER SESSION: ELT INSTRUMENTS

- 8446 7G **Key science drivers for MICH: a mid-IR instrument concept for the TMT** [8446-287]
C. Packham, Univ. of Texas San Antonio (United States) and Univ. of Florida (United States); M. Honda, Kanagawa Univ. (Japan); M. Richter, Univ. of California, Davis (United States); Y. K. Okamoto, Ibaraki Univ. (Japan); H. Kataza, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); T. Onaka, The Univ. of Tokyo (Japan); T. Fujiyoshi, Subaru Telescope, National Astronomical Observatory of Japan (United States); A. Tokunaga, M. Chun, Institute for Astronomy, Univ. of Hawai'i (United States); A. Alonso-Herrero, Instituto de Física de Cantabria (Spain); J. Carr, U.S. Naval Research Lab (United States); M. Chiba, Tohoku Univ. (Japan); K. Enya, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); H. Fujiwara, Subaru Telescope, National Astronomical Observatory of Japan (United States); P. Gandhi, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); M. Imanishi, Subaru Telescope, National Astronomical Observatory of Japan (United States); K. Ichikawa, Univ. of Kyoto (Japan); Y. Ita, Tohoku Univ. (Japan); N. Kawakatsu, Tsukuba Univ. (Japan); T. Kotani, National Astronomical Observatory of Japan (Japan); N. Levenson, Gemini Observatory (Chile); T. Matsuo, Univ. of Kyoto (Japan); M. Matsuura, Univ. College London (United Kingdom); T. Minezaki, The Univ. of Tokyo (Japan); J. Najita, National Optical Astronomy Observatory (United States); N. Ogi, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); T. Ootsubo, Tohoku Univ. (Japan); I. Sakon, Institute of Astronomy, The Univ. of Tokyo (Japan); M. Takami, Institute of Astronomy and Astrophysics (Taiwan); C. Telesco, Univ. of Texas San Antonio (United States); C. M. Wright, Univ. of New South Wales (Australia); T. Yamashita, National Astronomical Observatory of Japan (Japan)

- 8446 7H **Modelling complex phenomena in optical fibres** [8446-288]
J. Allington-Smith, G. Murray, U. Lemke, Univ. of Durham (United Kingdom)
- 8446 7I **MANIFEST instrument concept and related technologies** [8446-289]
M. Goodwin, J. Brzeski, S. Case, M. Colless, T. Farrell, L. Gers, J. Gilbert, J. Heijmans, A. Hopkins, J. Lawrence, S. Miziarski, G. Monnet, R. Muller, W. Saunders, G. Smith, J. Tims, L. Waller, Australian Astronomical Observatory (Australia)
- 8446 7J **Modelling the application of integrated photonic spectrographs to astronomy** [8446-290]
R. J. Harris, J. R. Allington-Smith, Univ. of Durham (United Kingdom)
- 8446 7K **Multi-object spectroscopy with the European ELT: scientific synergies between EAGLE and EVE** [8446-291]
C. J. Evans, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); B. Barbuy, Univ. de São Paulo (Brazil); P. Bonifacio, F. Chemla, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); J.-G. Cuby, Lab. d'Astrophysique de Marseille, CNRS, Aix Marseille Univ. (France); G. B. Dalton, Astrophysics (United Kingdom) and Rutherford Appleton Lab. (United Kingdom); B. Davies, Univ. of Cambridge (United Kingdom); K. Disseau, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); K. Dohlen, Lab. d'Astrophysique de Marseille, CNRS, Aix Marseille Univ. (France); H. Flores, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); E. Gendron, LESIA, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); I. Guinouard, F. Hammer, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); P. Hastings, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); D. Horville, P. Jagourel, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); L. Kaper, Astronomical Institute Anton Pannekoek, Univ. of Amsterdam (Netherlands); P. Laporte, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); D. Lee, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); S. L. Morris, T. Morris, R. Myers, Univ. of Durham (United Kingdom); R. Navarro, NOVA - ASTRON (Netherlands); P. Parr-Burman, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); P. Petitjean, Institut d'Astrophysique de Paris (France); M. Puech, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); E. Rollinde, Institut d'Astrophysique de Paris (France); G. Rousset, LESIA, Observatoire de Paris, CNRS (France); H. Schnettler, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); N. Welikala, Institut d'Astrophysique Spatiale, CNRS, Univ. Paris Sud XI (France); M. Wells, UK Astronomy Technology Ctr., Royal Observatory (United Kingdom); Y. Yang, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France) and National Astronomical Observatories (China)
- 8446 7L **Characterizing the red optical sky background fluctuations from narrow-band imaging** [8446-292]
M. Puech, H. Flores, GEPI, Observatoire de Paris, CNRS, Univ. Paris-Diderot (France); Y. B. Yang, GEPI, Observatoire de Paris, CNRS, Univ. Paris-Diderot (France) and National Astronomical Observatories (China); M. Rodrigues, European Southern Observatory (Chile) and GEPI, Observatoire de Paris, CNRS, Univ. Paris-Diderot (France) and Instituto Superior Tecnico (Portugal); T. Gonçalves, Observatorio do Valongo (Brazil); F. Hammer, K. Disseau, GEPI, Observatoire de Paris, CNRS, Univ. Paris-Diderot (France)
- 8446 7N **Optomechanical design concept for GMACS: a wide-field multi-object moderate resolution optical spectrograph for the Giant Magellan Telescope (GMT)** [8446-294]
S. A. Smee, R. H. Barkhouser, The Johns Hopkins Univ. (United States); T. Prochaska, Texas A&M Univ. (United States); S. A. Shectman, Carnegie Observatories (United States); R. P. Hammond, The Johns Hopkins Univ. (United States); D. L. DePoy, J. L. Marshall, Texas A&M Univ. (United States)

- 8446 7O **Sorption-based vibration-free cooler for the METIS instrument on E-ELT** [8446-295]
H. J. M. ter Brake, Y. Wu, D. R. Zalewski, C. H. Vermeer, H. J. Holland, Univ. Twente (Netherlands); J. Doornink, B. Benthem, E. Boom, Dutch Space B.V. (Netherlands)
- 8446 7P **Design and development of SWIMS: a near-infrared multi-object spectrograph for the University of Tokyo Atacama Observatory** [8446-296]
M. Konishi, K. Motohara, H. Takahashi, K. Tateuchi, Y. Kitagawa, N. Kato, Institute of Astronomy, The Univ. of Tokyo (Japan); T. Aoki, Kiso Observatory, Institute of Astronomy, The Univ. of Tokyo (Japan); M. Doi, Institute of Astronomy, The Univ. of Tokyo (Japan); T. Handa, Kagoshima Univ. (Japan); T. Kamizuka, K. Kawara, K. Kohno, S. Koshida, T. Minezaki, T. Miyata, T. Morokuma, S. Sako, Institute of Astronomy, The Univ. of Tokyo (Japan); T. Soyano, Kiso Observatory, Institute of Astronomy, The Univ. of Tokyo (Japan); Y. Tamura, T. Tanabe, M. Tanaka, Institute of Astronomy, The Univ. of Tokyo (Japan); K. Tarusawa, Kiso Observatory, Institute of Astronomy, The Univ. of Tokyo (Japan); Y. Yoshii, Institute of Astronomy, The Univ. of Tokyo (Japan)
- 8446 7Q **Variation of the near-IR sky continuum background from long-slit spectroscopy** [8446-297]
Y. B. Yang, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France) and National Astronomical Observatories (China); M. Puech, H. Flores, F. Hammer, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); M. Rodrigues, European Southern Observatory (Chile) and GEPI, Observatoire de Paris, CNRS (France) and CENTRA, Instituto Superior Tecnico, Observatorio do Valongo (Brazil); K. Disseau, GEPI, Observatoire de Paris, CNRS, Univ. Paris Diderot (France)
- 8446 7T **VIENTOS: a feasibility study of innovative pupil systems for the new generation of instruments in the large telescopes** [8446-300]
M. L. García-Vargas, A. Pérez-Calpena, FRACTAL S.L.N.E (Spain); J. Gallego, A. Gil de Paz, Univ. Complutense de Madrid (Spain); E. Sánchez-Blanco, I. Martínez-Delgado, M. Maldonado Medina, FRACTAL S.L.N.E (Spain); J. Zamorano Calvo, Univ. Complutense de Madrid (Spain)

POSTER SESSION: PLANET FINDERS/HIGH RESOLUTION AO INSTRUMENTS

- 8446 7U **Conceptual design of the Coronagraphic High Angular Resolution Imaging Spectrograph (CHARIS) for the Subaru telescope** [8446-302]
M. A. Peters, T. Groff, N. J. Kasdin, Princeton Univ. (United States); M. W. McElwain, NASA Goddard Space Flight Ctr. (United States); M. Galvin, M. A. Carr, R. Lupton, J. E. Gunn, G. Knapp, Princeton Univ. (United States); Q. Gong, NASA Goddard Space Flight Ctr. (United States); A. Carlotti, T. Brandt, M. Janson, Princeton Univ. (United States); O. Guyon, F. Martinache, M. Hayashi, N. Takato, Subaru Telescope, National Astronomical Observatory of Japan (United States)
- 8446 7V **Very high-resolution spectroscopy: the ESPRESSO optical design** [8446-303]
P. Spanò, INAF - Osservatorio Astronomico di Brera (Italy) and Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada); B. Delabre, H. Dekker, European Southern Observatory (Germany); F. Pepe, Observatoire de l'Univ. de Genève (Switzerland); F. M. Zerbi, INAF - Osservatorio Astronomico di Brera (Italy); P. Di Marcantonio, European Southern Observatory (Germany); S. Cristiani, INAF - Osservatorio Astronomico di Trieste (Italy); D. Mégevand, Observatoire de l'Univ. de Genève (Switzerland)

- 8446 7W **GRAVITY Coudé Infrared Adaptive Optics (CIAO) system for the VLT Interferometer** [8446-304]
S. Kendrew, S. Hippler, W. Brandner, Max-Planck-Institut für Astronomie (Germany); Y. Clénet, LESIA, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); C. Deen, Max-Planck-Institut für Astronomie (Germany); E. Gendron, LESIA, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); A. Huber, R. Klein, W. Laun, R. Lenzen, V. Naranjo, U. Neumann, J. Ramos, R.-R. Rohloff, P. Yang, Max-Planck-Institut für Astronomie (Germany); F. Eisenhauer, Max-Planck-Institut für extraterrestrische Physik (Germany); A. Amorim, Lab. de Sistemas, Instrumentao e Modelao em Cincias e Tecnologias do Ambiente e do Espao (Portugal); K. Perraut, Institut de Planétologie et d'Astrophysique de Grenoble (France); G. Perrin, LESIA, Observatoire de Paris, CNRS, Univ. Paris-Diderot (France); C. Straubmeier, Univ. of Cologne (Germany); E. Fedrigo, M. Suarez Valles, European Southern Observatory (Germany)
- 8446 7X **PlanetCam UPV/EHU: a simultaneous visible and near infrared lucky-imaging camera to study solar system objects** [8446-305]
A. Sanchez-Lavega, J. F. Rojas, R. Hueso, S. Perez-Hoyos, Univ. del País Vasco (Spain); L. de Bilbao, G. Murga, J. Ariño, IDOM (Spain)
- 8446 7Y **NESSI: an optimized Near-Infrared (NIR) Multi-Object Spectrograph (MOS) for exoplanet studies** [8446-306]
M. J. Creech-Eakman, C. A. Jurgenson, F. G. Santoro, Magdalena Ridge Observatory (United States); H. Bloemhard, New Mexico Institute of Mining and Technology (United States); P. J. Boston, Magdalena Ridge Observatory (United States); P. D. Deroo, Jet Propulsion Lab. (United States); M. Hrynevych, S. R. Jimenez, A. M. Olivares, Magdalena Ridge Observatory (United States); M. Napolitano, New Mexico Institute of Mining and Technology (United States); C. D. Salcido, Magdalena Ridge Observatory (United States); L. M. Schmidt, R. Selina, New Mexico Institute of Mining and Technology (United States); M. R. Swain, G. Vasisht, Jet Propulsion Lab. (United States)
- 8446 7Z **Conceptual study for a sub-pupil instrument having 4 high order adaptive optics path for parallel multi-wavelength high contrast imaging, and medium resolution spectrometry** [8446-308]
F. Y. J. Gontte, P. Bourget, J. Girard, P. Haguenauer, D. Mawet, European Southern Observatory (Chile)
- 8446 81 **An echelle spectrograph for precise radial velocity measurements in the near IR** [8446-311]
A. Berdja, L. Vanzi, A. Jordán, Pontificia Univ. Católica de Chile (Chile); S. Koshida, Institute of Astronomy, The Univ. of Tokyo (Japan)
- 8446 82 **Progress on multi-object exoplanet search spectral interferometer** [8446-312]
K. Zhang, Y. Zhu, L. Wang, Z. Yue, Y. Chen, J. Tang, Z. Hu, Nanjing Institute of Astronomical Optics & Technology (China)
- 8446 84 **Optical design of new generation compact, high resolution and high Doppler precision optical spectrograph** [8446-314]
B. Zhao, J. Ge, Univ. of Florida (United States)
- 8446 85 **Optical design of a versatile FIRST high-resolution near-IR spectrograph** [8446-315]
B. Zhao, J. Ge, Univ. of Florida (United States)

- 8446 86 **The SED Machine: a dedicated transient IFU spectrograph** [8446-316]
S. Ben-Ami, Weizmann Institute of Science (Israel); N. Konidaris, Cahill Ctr. for Astronomy and Astrophysics, California Institute of Technology (United States); R. Quimby, Kavli Institute for the Physics and Mathematics of the Universe, The Univ. of Tokyo (Japan); J. T. C. Davis, Cahill Ctr. for Astronomy and Astrophysics, California Institute of Technology (United States); C. C. Ngeow, A. Ritter, A. Rudy, Graduate Institute of Astronomy, National Central Univ. (Taiwan)
- 8446 88 **KiwiSpec - an advanced spectrograph for high resolution spectroscopy: optical design and variations** [8446-318]
S. I. Barnes, Stuart Barnes Optical Design (New Zealand); S. Gibson, Univ. of Canterbury (New Zealand) and Industrial Research Ltd. (New Zealand); K. Nield, D. Cochrane, Industrial Research Ltd. (New Zealand)
- 8446 89 **Experimental results on wavefront correction using the self-coherent camera** [8446-319]
M. Mas, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France) and LESIA, Observatoire de Paris, CNRS, Univ. Pierre et Marie Curie Paris 6 and Univ. Denis Diderot (France); P. Baudoz, J. Mazoyer, LESIA, Observatoire de Paris, CNRS, Univ. Pierre et Marie Curie Paris 6 and Univ. Denis Diderot (France); R. Galicher, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada) and Univ. de Montréal (Canada); G. Rousset, LESIA, Observatoire de Paris, CNRS, Univ. Pierre et Marie Curie Paris 6 and Univ. Denis Diderot (France)
- 8446 8A **Buckling failure of the automated planet finder spectrometer determinate spaceframe** [8446-320]
M. V. Radovan, G. F. Cabak, Univ. of California Observatories/Lick Observatory (United States)
- 8446 8B **Coronagraphic phase diversity for exoplanet detection** [8446-321]
B. Paul, ONERA (France) and Lab. d'Astrophysique de Marseille, Univ. Aix-Marseille, CNRS (France) and Groupement d'interet scientifique PHASE (France); J.-F. Sauvage, L. M. Mugnier, ONERA (France) and Groupement d'interet scientifique PHASE (France); M. N'Diaye, K. Dohlen, M. Ferrari, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France) and Groupement d'interet scientifique PHASE (France); T. Fusco, Groupement d'interet scientifique PHASE (France)
- 8446 8C **Dark hole and planet detection: laboratory results using the self-coherent camera** [8446-322]
P. Baudoz, J. Mazoyer, M. Mas, Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France); R. Galicher, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada) and Univ. de Montreal (Canada); G. Rousset, Lab. d'Etudes Spatiales et d'Instrumentation en Astrophysique, Observatoire de Paris (France)
- 8446 8D **Laboratory test of a polarimetry imaging subtraction system for the high-contrast imaging** [8446-323]
J. Dou, Nanjing Institute of Astronomical Optics & Technology (China); D. Ren, Nanjing Institute of Astronomical Optics & Technology (China) and California State Univ., Northridge (United States); Y. Zhu, Nanjing Institute of Astronomical Optics & Technology (China); X. Zhang, R. Li, Nanjing Institute of Astronomical Optics & Technology (China) and Graduate Univ. of Chinese Academy of Sciences (China)

- 8446 8E **A passive cost-effective solution for the high accuracy wavelength calibration of radial velocity spectrographs** [8446-324]
F. Wildi, B. Chazelas, F. Pepe, Observatoire de l'Univ. de Genève (Switzerland)
- 8446 8G **Near-infrared calibration systems for precise radial-velocity measurements** [8446-326]
S. L. Redman, National Institute of Standards and Technology (United States); F. Kerber, European Southern Observatory (Germany); G. Nave, National Institute of Standards and Technology (United States); S. Mahadevan, The Pennsylvania State Univ. (United States) and Ctr. for Exoplanets and Habitable Worlds (United States); L. W. Ramsey, The Pennsylvania State Univ. (United States); J. Smoker, European Southern Observatory (Chile); H. Käufl, European Southern Observatory (Germany); P. R. L. Figueira, Ctr. de Astrofísica da Univ. do Porto (Portugal)
- 8446 8H **Development of the Savart-plate lateral-shearing interferometric nuller for exoplanet (SPLINE)** [8446-327]
N. Murakami, M. Kida, N. Baba, Hokkaido Univ. (Japan); T. Matsuo, Kyoto Univ. (Japan) and National Astronomical Observatory of Japan (Japan); T. Kotani, National Astronomical Observatory of Japan (Japan) and Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); H. Kawahara, Tokyo Metropolitan Univ. (Japan); Y. Fujii, The Univ. of Tokyo (Japan); M. Tamura, National Astronomical Observatory of Japan (Japan)
- 8446 8I **A slitless spectrograph for observing transient events with small telescopes** [8446-328]
B. E. Zhilyaev, Main Astronomical Observatory (Ukraine) and ICAMER Observatory (Ukraine); O. Sergeev, M. Andreev, V. G. Godunova, ICAMER Observatory (Ukraine); V. Reshetnyk, Main Astronomical Observatory (Ukraine) and National Taras Shevchenko Univ. (Ukraine); V. K. Tarady, ICAMER Observatory (Ukraine)
- 8446 8J **Optical fiber modal noise in the 0.8 to 1.5 micron region and implications for near infrared precision radial velocity measurements** [8446-329]
K. S. McCoy, L. Ramsey, S. Mahadevan, S. Halverson, The Pennsylvania State Univ. (United States); S. L. Redman, National Institute of Standards and Technology (United States)
- 8446 8K **A diamond AGPM coronagraph for VISIR** [8446-330]
C. Delacroix, O. Absil, Univ. de Liège (Belgium); D. Mawet, European Southern Observatory (Chile); C. Hanot, Univ. de Liège (Belgium); M. Karlsson, P. Forsberg, Uppsala Univ. (Sweden); E. Pantin, CEA Saclay (France); J. Surdej, S. Habraken, Univ. de Liège (Belgium)
- 8446 8N **The IFS of SPHERE: integration and laboratory performances** [8446-333]
R. Claudi, U. Anselmi, INAF - Osservatorio Astronomico di Padova (Italy); P. Bruno, INAF - Osservatorio Astrofisico di Catania (Italy); E. Cascone, INAF - Osservatorio Astronomico di Capodimonte (Italy); A. Costille, Institute de Planetologie et d'Astrophysique de Grenoble, CNRS, Univ. Joseph Fourier (France); V. De Caprio, INAF - Osservatorio Astronomico di Capodimonte (Italy); S. Desidera, E. Giro, R. Gratton, L. Lessio, D. Mesa, INAF - Osservatorio Astronomico di Padova (Italy); S. Scuderi, INAF - Osservatorio Astrofisico di Catania (Italy); M. Turatto, INAF - Osservatorio Astronomico di Padova (Italy); F. Wildi, Observatoire de l'Univ. de Genève (Switzerland); A. Baruffolo, INAF - Osservatorio Astronomico di Padova (Italy); R. Dorn, European Southern Observatory (Germany); D. Fantinel, INAF - Osservatorio Astronomico di Padova (Italy); G. Finger, J. L. Lizon, European Southern Observatory (Germany); E. Sant'Ambrogio, Institute de Planetologie et d'Astrophysique de Grenoble, CNRS, Univ. Joseph Fourier (France); B. Salasnich, INAF - Osservatorio Astronomico di Padova (Italy); J. Beuzit, Institute de Planetologie et d'Astrophysique de Grenoble, CNRS,

Univ. Joseph Fourier (France); K. Dohlen, European Southern Observatory (Germany); P. Puget, Institute de Planetologie et d'Astrophysique de Grenoble, CNRS, Univ. Joseph Fourier (France); M. Kasper, N. Hubin, European Southern Observatory (Germany)

- 8446 8O **Calibration of an echelle spectrograph with an astro-comb: a laser frequency comb with very high repetition rate** [8446-335]
D. F. Phillips, A. Glenday, C.-H. Li, G. Furesz, Harvard-Smithsonian Ctr. for Astrophysics (United States); A. J. Benedick, G. N. Chang, L.-J. Chen, Massachusetts Institute of Technology (United States); S. Korzennik, D. Sasselov, Harvard-Smithsonian Ctr. for Astrophysics (United States); F. X. Kaertner, Hamburg Univ. and DESY (Germany); A. Szentgyorgyi, Harvard-Smithsonian Ctr. for Astrophysics (United States); R. L. Walsworth, Harvard-Smithsonian Ctr. for Astrophysics (United States) and Harvard Univ. (United States)
- 8446 8R **Design and performance of a new generation, compact, low cost, very high Doppler precision and resolution optical spectrograph** [8446-338]
J. Ge, B. Zhao, S. Powell, J. Wang, A. Fletcher, Univ. of Florida (United States); L. Chang, Univ. of Florida (United States) and Yunnan Astronomical Observatory (China); J. Groot, X. Wan, H. Jakeman, D. Myers, E. Grafer, J. Liu, F. Varosi, S. Schofield, A. Moore, M. I. van Olphen, J. Katz, Univ. of Florida (United States); R. Barnes, Univ. of Washington (United States)
- 8446 8T **Extreme Doppler precision with octagonal fiber scramblers** [8446-340]
J. F. P. Spronck, Z. A. Kaplan, D. A. Fischer, C. Schwab, A. E. Szymkowiak, Yale Univ. (United States)
- 8446 8U **Stop-less Lyot coronagraph for exoplanet characterization** [8446-341]
A. Vigan, Univ. of Exeter (United Kingdom) and LAM, CNRS, Univ. de Provence (France); M. N'Diaye, K. Dohlen, Lab. d'Astrophysique de Marseille, CNRS, Univ. de Provence (France)
- 8446 8W **Performance of the integral field spectrograph for the Gemini Planet Imager** [8446-343]
J. K. Chilcote, J. E. Larkin, Univ. of California, Los Angeles (United States); J. Maire, Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); M. D. Perrin, Space Telescope Science Institute (United States); M. P. Fitzgerald, Univ. of California, Los Angeles (United States); R. Doyon, Univ. de Montréal (Canada); S. Thibault, Univ. Laval (Canada); B. Bauman, B. A. Macintosh, Lawrence Livermore National Lab. (United States); J. R. Graham, Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); L. Saddlemyer, Hertzberg Institute of Astrophysics, National Research Council of Canada (Canada)
- 8446 8X **Green astro-comb for HARPS-N** [8446-344]
C. Li, A. G. Glenday, D. F. Phillips, G. Furesz, Harvard-Smithsonian Ctr. for Astrophysics (United States); N. Langellier, Harvard Univ. (United States); M. Webber, Northeastern Univ. (United States); A. Zibrov, Harvard-Smithsonian Ctr. for Astrophysics (United States); A. J. Benedick, G. Chang, L. J. Chen, Massachusetts Institute of Technology (United States); D. Sasselov, Harvard-Smithsonian Ctr. for Astrophysics (United States); F. Kärtner, Massachusetts Institute of Technology (United States); A. Szentgyorgyi, Harvard-Smithsonian Ctr. for Astrophysics (United States); R. L. Walsworth, Harvard-Smithsonian Ctr. for Astrophysics (United States) and Harvard Univ. (United States)

- 8446 8Y **Tests of the demodulating CCDs for the SPHERE / ZIMPOL imaging polarimeter** [8446-345]
H.-M. Schmid, ETH Zürich (Switzerland); M. Downing, European Southern Observatory (Germany); R. Roelfsema, NOVA - ASTRON (Netherlands); A. Bazzon, D. Gisler, ETH Zürich (Switzerland); J. Pragt, NOVA - ASTRON (Netherlands); C. Cumani, European Southern Observatory (Germany); B. Salasnich, INAF - Osservatorio Astronomico di Padova (Italy); A. Pavlov, Max-Planck-Institut für Astronomie (Germany); A. Baruffolo, INAF - Osservatorio Astronomico di Padova (Italy); J.-L. Beuzit, A. Costille, Institut de Planetologie et d'Astrophysique de Grenoble, Univ. Joseph Fourier (France); S. Deiries, European Southern Observatory (Germany); K. Dohlen, Lab. d'Astrophysique de Marseille, Observatoire Astronomique de Marseille-Provence (France); C. Dominik, Astronomical Institute Anton Pannekoek, Univ. of Amsterdam (Netherlands); E. Elswijk, NOVA - ASTRON (Netherlands); M. Feldt, Max-Planck-Institut für Astronomie (Germany); M. Kasper, European Southern Observatory (Germany); D. Mouillet, Institut de Planetologie et d'Astrophysique de Grenoble, Univ. Joseph Fourier (France); C. Thalmann, Astronomical Institute Anton Pannekoek, Univ. of Amsterdam (Netherlands); F. Wildi, Observatoire de l'Univ. de Genève (Switzerland)
- 8446 8Z **Fiber scrambling for precise radial velocities at Lick and Keck Observatories** [8446-346]
J. F. P. Spronck, D. A. Fischer, Z. A. Kaplan, C. Schwab, Yale Univ. (United States)
- 8446 91 **Polarimetric performance of the Gemini Planet Imager** [8446-348]
S. J. Wiktorowicz, Univ. of California, Santa Cruz (United States); M. Millar-Blanchaer, Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); M. D. Perrin, Space Telescope Science Institute (United States); J. R. Graham, Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); S. J. Thomas, Gemini Observatory (United States); D. Dillon, UCO/Lick Observatory (United States); M. P. Fitzgerald, Univ. of California, Los Angeles (United States); J. Maire, Dunlap Institute for Astronomy & Astrophysics, Univ. of Toronto (Canada); B. A. Macintosh, Lawrence Livermore National Lab. (United States); S. J. Goodsell, Gemini Observatory (United States)
- 8446 92 **A testbed for simultaneous measurement of fiber near and far-field for the evaluation of fiber scrambling properties** [8446-349]
T. Feger, Univ.-Sternwarte München (Germany); A. Brucalassi, Max-Planck-institut für extraterrestrische Physik (Germany); F. U. Grupp, Max-Planck-institut für extraterrestrische Physik (Germany) and Univ.-Sternwarte München (Germany); F. Lang-Bardl, Univ. Observatory Munich (Germany); R. Holzwarth, Max-Planck-Institut für Quantenoptik (Germany); U. Hopp, Univ.-Sternwarte München (Germany); R. Bender, Max-Planck-institut für extraterrestrische Physik (Germany) and Univ.-Sternwarte München (Germany)
- 8446 93 **SPHERE / ZIMPOL: characterization of the FLC polarization modulator** [8446-350]
A. Bazzon, D. Gisler, ETH Zürich (Switzerland); R. Roelfsema, NOVA - ASTRON (Netherlands); H. Schmid, ETH Zürich (Switzerland); J. Pragt, E. Elswijk, M. de Haan, NOVA - ASTRON (Netherlands); M. Downing, European Southern Observatory (Germany); B. Salasnich, INAF - Osservatorio Astronomico di Padova (Italy); A. Pavlov, Max-Planck-Institut für Astronomie (Germany); J. Beuzit, Institut de Planetologie et d'Astrophysique de Grenoble, Univ. Joseph Fourier (France); K. Dohlen, Lab. d'Astrophysique de Marseille, Observatoire Astronomique de Marseille-Provence (France); D. Mouillet, Institut de Planetologie et d'Astrophysique de Grenoble, Univ. Joseph Fourier (France); F. Wildi, Observatoire de l'Univ. de Genève (Switzerland)

- 8446 94 **Two Fabry-Perot interferometers for high precision wavelength calibration in the near-infrared** [8446-351]
S. Schäfer, A. Reiners, Georg-August-Univ. Göttingen (Germany)
- 8446 95 **Investigating spectrograph design parameters with the Yale Doppler diagnostic facility** [8446-353]
C. Schwab, Yale Univ. (United States); T. Gutcke, Landessternwarte, Zentrum für Astronomie der Univ. Heidelberg (Germany); J. P. F. Spronck, D. A. Fischer, A. Szymkowiak, Yale Univ. (United States)
- 8446 96 **High-resolution Fourier transform spectrograph for characterization of echelle spectrograph wavelength calibrators** [8446-354]
A. G. Glenday, D. F. Phillips, Harvard-Smithsonian Ctr. for Astrophysics (United States); M. Webber, Northeastern Univ. (United States); C.-H. Li, G. Furesz, Harvard-Smithsonian Ctr. for Astrophysics (United States); G. Chang, L.-J. Chen, Massachusetts Institute of Technology (United States); F. X. Kärtnner, Massachusetts Institute of Technology (United States) and DESY (Germany); D. D. Sasselov, A. H. Szentgyorgyi, R. L. Walsworth, Harvard-Smithsonian Ctr. for Astrophysics (United States)
- 8446 97 **Alignment of the SPHERE-ZIMPOL imaging polarimeter** [8446-355]
J. Pragt, R. Roelfsema, NOVA - ASTRON (Netherlands); D. Gisler, ETH Zürich (Switzerland); F. Wildi, Observatoire de l'Univ. de Genève (Switzerland); H. M. Schmid, ETH Zürich (Switzerland); F. Rigal, E. Elswijk, M. de Haan, NOVA - ASTRON (Netherlands); A. Bazzon, ETH Zürich (Switzerland); K. Dohlen, Lab. d'Astrophysique de Marseille, Observatoire Astronomique de Marseille-Provence (France); A. Costille, Institut de Planétologie et d'Astrophysique de Grenoble (France); C. Dominik, Astronomical Institute Anton Pannekoek, Univ. of Amsterdam (Netherlands)
- 8446 98 **SPHERE-IRDIS assembly, integration and testing: from bits and metal to a planet-hunting machine** [8446-356]
F. Madec, K. Dohlen, P. Blanchard, M. Carle, A. Origné, M. Jaquet, D. Le Mignant, R. Barette, G. Moreaux, G. Arthaud, D. Ferrand, J.-C. Blanc, P. Vors, F. Ducret, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France); L. Gluck, Institut de Planétologie et d'Astrophysique de Grenoble (France); M. Saisse, C. Fabron, P. Laurent, J.-A. Benedetti, W. Bon, M. Llored, C. Moutou, C. Gry, J.-C. Meunier, A. Vigan, L. Hill, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France); M. P. Langlois, Ctr. de Recherche Astronomique de Lyon, CNRS, Univ. Lyon (France); J.-L. Lizon, European Southern Observatory (Germany); V. Naranjo, Max-Planck-Institut für Astronomie (Germany); R. Brast, European Southern Observatory (Germany); M. Feldt, Max-Planck-Institut für Astronomie (Germany); D. Popovic, European Southern Observatory (Germany)
- 8446 99 **First laboratory results of SPHERE/IRDIS dual-band imaging and long slit spectroscopy modes** [8446-357]
A. Vigan, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France); M. Langlois, Ctr. de Recherche Astronomique de Lyon, CNRS, Univ. Lyon (France); P. Martinez, Institut de Planétologie et d'Astrophysique de Grenoble, CNRS, Univ. Joseph Fourier (France); D. Le Mignant, K. Dohlen, C. Moutou, C. Gry, F. Madec, Lab. d'Astrophysique de Marseille, CNRS, Aix-Marseille Univ. (France)

- 8446 9C **Scientific design of a high contrast integral field spectrograph for the Subaru Telescope** [8446-360]
M. W. McElwain, NASA Goddard Space Flight Ctr. (United States); T. D. Brandt, M. Janson, G. R. Knapp, M. A. Peters, A. S. Burrows, A. Carlotti, M. A. Carr, T. Groff, J. E. Gunn, Princeton Univ. (United States); O. Guyon, Subaru Telescope, National Astronomical Observatory of Japan (United States); M. Hayashi, National Astronomical Observatory of Japan (Japan); N. J. Kasdin, Princeton Univ. (United States); M. Kuzuhara, The Univ. of Tokyo (Japan); R. H. Lupton, Princeton Univ. (United States); F. Martinache, Subaru Telescope, National Astronomical Observatory of Japan (United States); D. Spiegel, Institute for Advanced Study (United States); N. Takato, Subaru Telescope, National Astronomical Observatory of Japan (United States); M. Tamura, National Astronomical Observatory of Japan (Japan); E. L. Turner, R. J. Vanderbei, Princeton Univ. (United States)
- 8446 9E **ESPRESSO front end opto-mechanical configuration** [8446-362]
M. Riva, M. Landoni, F. M. Zerbi, INAF - Osservatorio Astronomico di Brera (Italy); D. Mégevand, Observatoire de l'Univ. de Genève (Switzerland); A. Cabral, Univ. de Lisboa (Portugal); S. Cristiani, INAF - Osservatorio Astronomico di Trieste (Italy); B. Delabre, European Southern Observatory (Germany)
- 8446 9F **Laboratory demonstration and characterization of phase-sorting interferometry** [8446-363]
G. P. Otten, M. A. Kenworthy, Leiden Observatory, Leiden Univ. (Netherlands); J. L. Codona, Steward Observatory, The Univ. of Arizona (United States)
- 8446 9G **Mechanical design of NESSI: New Mexico Tech extrasolar spectroscopic survey instrument** [8446-364]
F. G. Santoro, A. M. Olivares, C. D. Salcido, S. R. Jimenez, C. A. Jurgenson, M. J. Creech-Eakman, M. A. Hrynevych, New Mexico Institute of Mining and Technology/MRO (United States); L. M. Schmidt, New Mexico Institute of Mining and Technology (United States); H. Bloemhard, New Mexico Institute of Mining and Technology/MRO (United States); M. Napolitano, New Mexico Institute of Mining and Technology (United States); R. Selina, New Mexico Institute of Mining and Technology/MRO (United States); P. J. Boston, New Mexico Institute of Mining and Technology (United States); G. Vasisht, M. R. Swain, P. D. Deroo, Jet Propulsion Lab. (United States)
- 8446 9I **The extreme polarimeter: design, performance, first results and upgrades** [8446-366]
M. Rodenhuis, Sterrewacht Leiden (Netherlands); H. Canovas, Univ. de Valparaiso (Chile); S. V. Jeffers, Institut für Astrophysik Göttingen (Germany); M. de Juan Ovelar, L. Homs, Sterrewacht Leiden (Netherlands); M. Min, Astronomical Institute Anton Pannekoek, Univ. of Amsterdam (Netherlands); C. U. Keller, Sterrewacht Leiden (Netherlands)
- 8446 9J **A spectro-polarimetric integral field spectrograph for EPICS-EPOL** [8446-367]
M. Rodenhuis, Sterrewacht Leiden (Netherlands); B. Sprenger, Utrecht Univ. (Netherlands); C. U. Keller, Sterrewacht Leiden (Netherlands)
- 8446 9L **FRD and scrambling properties of recent non-circular fibres** [8446-369]
G. Avila, European Southern Observatory (Germany)
- 8446 9M **High efficiency inexpensive 2-slices image slicers** [8446-370]
G. Avila, C. Guirao, European Southern Observatory (Germany); T. Baader, Baader Planetarium (Germany)

- 8446 9O **Mechanical design and integration of the support structure for the Reionization And Transients Infrared Instrument RATIR** [8446-372]
A. Farah, J. J. González, Univ. Nacional Autónoma de México (Mexico); A. S. Kutyrev, G. Lotkin, NASA Goddard Space Flight Ctr. (United States); A. M. Watson, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); N. R. Butler, Arizona State Univ. (United States); W. H. Lee, M. G. Richer, E. López, D. Clark, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico); G. Cabak, Univ. of California Observatories/Lick Observatory (United States); O. D. Fox, D. A. Rapchun, NASA Goddard Space Flight Ctr. (United States); C. Román-Zúñiga, L. Georgiev, Instituto de Astronomía, Univ. Nacional Autónoma de México (Mexico)
- 8446 9P **A new method for correcting fibre barycentre displacements in high resolution spectroscopy** [8446-373]
G. J. Murray, J. R. Allington-Smith, Univ. of Durham (United Kingdom); U. Lemke, Institut für Astrophysik Göttingen (Germany)

Author Index

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Session Chairs

- 1 Instrumentation at Major Observatories
Suzanne K. Ramsay, European Southern Observatory (Germany)
- 2 New Instruments
Hideki Takami, Subaru Telescope, National Astronomical Observatory of Japan (United States)
- 3 Multi-Object Instruments I
Ian S. McLean, University of California, Los Angeles (United States)

- 4 Multi-Object Instruments II
Ian S. McLean, University of California, Los Angeles (United States)
- 5 Imaging Surveyors I
Stephen S. Eikenberry, University of Florida (United States)
- 6 Imaging Surveyors II
Stephen S. Eikenberry, University of Florida (United States)
- 7 Airborne Instruments
Maureen L. Savage, SOFIA, NASA University Space Research Association (United States)
- 8 Solar Instruments
Ian S. McLean, University of California, Los Angeles (United States)
- 9 ELT Instruments I
Christopher J. Evans, UK Astronomy Technology Centre (United Kingdom)
- 10 ELT Instruments II
Christopher J. Evans, UK Astronomy Technology Centre (United Kingdom)
- 11 ELT Instruments III
Luc Simard, NRC Dominion Astrophysics Observatory (Canada)
- 12 Planet Finders I
Ramón J. García López, Instituto de Astrofísica de Canarias (Spain)
- 13 Planet Finders II
Ramón J. García López, Instituto de Astrofísica de Canarias (Spain)
- 14 High Resolution and AO Instruments
Ian S. McLean, University of California, Los Angeles (United States)

Introduction

Astronomical instrumentation continues to show impressive advances. We live in an era of unprecedented productivity and creativity. The well-established ground-based 8-10m class observatories are being equipped with second and third generation instruments, of substantial size and complexity. Designs are underway for new instruments that will deliver the scientific results from the planned extremely large telescopes (apertures of 20m and more). There is no doubt that it is challenging to produce these new instruments. They must perform at the highest level and yet be reliable and affordable.

Innovative optical/IR instrumentation for many kinds of smaller telescopes, solar telescopes, and airborne platforms has provided new opportunities in recent years. Adaptive optics, wide-field multi-object surveys, and 3D spectroscopy are all becoming "standard" facilities as detector sizes continue to grow. Increasingly, new instrumentation is designed with adaptive optics incorporated in the overall system.

This conference, the fourth in the series, was established with the following aims: (1) to provide an overview of the performance and lessons learned from those instruments already in operation; (2) to give insight into the design and status of future instruments proposed, planned or already in development; (3) to create a forum for the exchange of technical information on achievements and problems amongst instrument builders in both the academic and industrial worlds. Without doubt, these goals were achieved.

At this meeting, 327 papers were presented, either as oral or poster contributions, a record for this conference series. Eight invited reviews were requested on major existing facilities or planned new ones. Topics covered the entire range of UV, optical and infrared instrumentation for both ground-based and airborne astronomy. Specific areas of interest included:

- performance of recently developed instrumentation
- design reports of new instruments - imagers, spectrographs, polarimeters
- new techniques and technologies, especially for planet hunting
- instruments for airborne astronomy
- instruments for ground-based solar telescopes
- instrumentation for future Extremely Large Telescopes (ELTs)

The conference was subdivided into 14 sessions spread over five days, including two sessions (Session 12 and 13) on Planet Finders. On behalf of the program committee, it is a pleasure to acknowledge all participants.

Ian S. McLean
Suzanne K. Ramsay
Hideki Takami