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Brent L. Ellerbroek
Enrico Marchetti
Jean-Pierre Véran
Editors

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E. Gendron, D. Gratadour, LESIA, Observatoire de Paris, CNRS, UPMC, Univ. Paris Diderot (France)
- 8447 14 **Wavefront sensing and correction with the Gemini Planet Imager** [8447-40]
S. Thomas, Gemini Observatory (United States); L. Poyneer, D. Savransky, Lawrence Livermore National Lab. (United States); B. Macintosh, NRC Herzberg Institute of Astrophysics (Canada); M. Hartung, Gemini Observatory (United States); D. Dillon, D. Gavel, UCO Lick Observatory (United States); J. Dunn, NRC Herzberg Institute of Astrophysics (Canada); K. Wallace, Jet Propulsion Lab. (United States); D. Palmer, Lawrence Livermore National Lab. (United States); R. De Rosa, Univ. of Exeter (United Kingdom)
- 8447 15 **Focal-plane wave front sensing strategies for high contrast imaging: experimental validations on SPHERE** [8447-41]
J.-F. Sauvage, T. Fusco, C. Petit, L. Mugnier, ONERA (France); B. Paul, ONERA (France) and Lab. d' Astrophysique de Marseille (France); A. Costille, IPAG (France)

- 8447 16 **Retrieving the telescope and instrument static wavefront aberration with a phase diversity procedure using on-sky adaptive optics corrected images** [8447-42]
L. Jolissaint, aquilAOptics (Switzerland); L. M. Mugnier, ONERA (France); C. Neyman, W. M. Keck Observatory (United States); J. Christou, Gemini Observatory (United States); P. Wizinowich, W. M. Keck Observatory (United States)
- 8447 17 **Design of a truth sensor for the GMT laser tomography adaptive optics system** [8447-43]
M. A. van Dam, Flat Wavefronts (New Zealand); R. Conan, The Research School of Astronomy and Astrophysics, The Australian National Univ. (Australia); A. H. Bouchez, Giant Magellan Telescope Organization Corp. (United States); B. Espeland, The Research School of Astronomy and Astrophysics, The Australian National Univ. (Australia)

SESSION 11 AO DISTURBANCES MODELING AND CHARACTERIZATION I

- 8447 18 **Turbulence modeling and estimation for AO systems (Invited Paper)** [8447-44]
A. Beghi, A. Cenerede, A. Masiero, Univ. degli Studi di Padova (Italy)
- 8447 19 **Mesospheric sodium structure variability on horizontal scales relevant to laser guide star asterisms (Invited Paper)** [8447-45]
T. Pfrommer, European Southern Observatory (Germany); P. Hickson, The Univ. of British Columbia (Canada)
- 8447 1A **Lunar scintillometer to validate GLAO turbulence distribution measurements** [8447-46]
K. Newman, M. Hart, E. Bendek, Ctr. for Astronomical Adaptive Optics, The Univ. of Arizona (United States); E. Bustos, Cerro Tololo Inter-American Observatory (Chile)
- 8447 1B **Estimation of vertical profiles of wind from MASS measurements** [8447-47]
M. V. Kornilov, Lomonosov Moscow State Univ., Sternberg Astronomical Institute (Russian Federation)

Part Two

SESSION 12 AO DISTURBANCES MODELING AND CHARACTERIZATION II

- 8447 1C **Vibrations in AO control: a short analysis of on-sky data around the world** [8447-48]
C. Kulcsár, L2TI, Institut Galilée, Univ. Paris 13 (France); G. Sivo, L2TI, Institut Galilée, Univ. Paris 13 (France) and ONERA (France); H.-F. Raynaud, L2TI, Institut Galilée, Univ. Paris 13 (France); B. Neichel, F. Rigaut, Gemini Observatory (Chile); J. Christou, Gemini Observatory (United States); A. Guesalaga, Univ. Católica de Chile (Chile); C. Correia, J.-P. Véran, NRC Herzberg Institute of Astrophysics (Canada); E. Gendron, F. Vidal, G. Rousset, LESIA, Observatoire de Paris, CNRS, Univ. Paris Diderot (France); T. Morris, Durham Univ. (United Kingdom); S. Esposito, F. Quiros-Pacheco, G. Agapito, INAF - Osservatorio Astrofisico di Arcetri (Italy); E. Fedrigo, L. Pettazzi, R. Clare, European Southern Observatory (Germany); R. Muradore, Univ. of Verona (Italy); O. Guyon, F. Martinache, Subaru Telescope, National Astronomical Observatory of Japan (United States); S. Meimon, J.-M. Conan, ONERA (France)

- 8447 1D **Tolerancing the fabrication errors of static optical elements for ELT-size wide-field AO systems** [8447-49]
J.-P. Véran, J. Pazder, G. Herriot, D. Andersen, NRC Herzberg Institute of Astrophysics (Canada)

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- 8447 1F **Subaru laser guide adaptive optics system: performance and science operation** [8447-52]
Y. Minowa, Y. Hayano, H. Terada, T.-S. Pyo, S. Oya, M. Hattori, Subaru Telescope, National Astronomical Observatory of Japan (United States); M. Shirahata, Japan Aerospace Exploration Agency (Japan); H. Takami, National Astronomical Observatory of Japan (Japan); O. Guyon, V. Garrel, S. Colley, M. Weber, T. Golota, Subaru Telescope, National Astronomical Observatory of Japan (United States); M. Watanabe, Hokkaido Univ. (Japan); Y. Saito, Tokyo Institute of Technology (Japan); M. Ito, Univ. of Victoria (Canada); M. Iye, National Astronomical Observatory of Japan (Japan)
- 8447 1G **'Imaka: working towards very wide-field of view AO** [8447-2]
M. Chun, Univ. of Hawai'i, Hilo (United States); O. Lai, J.-C. Cuillandre, Canada-France-Hawaii Telescope Corp. (United States); H. Richer, The Univ. of British Columbia (Canada); D. Toomey, Mauna Kea Infrared LLC (United States); D. Salmon, Canada-France-Hawaii Telescope Corp. (United States); R. Carlberg, Univ. of Toronto (Canada); D. Andersen, NRC Herzberg Institute of Astrophysics (Canada); D. Burgarella, Observatoire Astronomique de Marseille-Provence (France); K. Ho, Canada-France-Hawaii Telescope Corp. (United States); J. Pazder, NRC Herzberg Institute of Astrophysics (Canada); E. Bertin, Institut d'Astrophysique de Paris (France)

SESSION 14 AO FOR ELTs

- 8447 1I **The Giant Magellan Telescope adaptive optics program** [8447-54]
A. H. Bouchez, Giant Magellan Telescope Organization Corp. (United States); D. S. Acton, Ball Aerospace & Technologies Corp. (United States); G. Agapito, C. Arcidiacono, INAF - Osservatorio Astrofisico di Arcetri (Italy); F. Bennet, Research School of Astronomy and Astrophysics, The Australian National Univ. (Australia); V. Biliotti, M. Bonaglia, R. Briguglio, INAF - Osservatorio Astrofisico di Arcetri (Italy); G. Brusa-Zappellini, Steward Observatory, The Univ. of Arizona (United States); L. Busoni, L. Carbonaro, INAF - Osservatorio Astrofisico di Arcetri (Italy); J. L. Codona, Steward Observatory, The Univ. of Arizona (United States); R. Conan, Research School of Astronomy and Astrophysics, The Australian National Univ. (Australia); T. Connors, O. Durney, Steward Observatory, The Univ. of Arizona (United States); B. Espeland, Research School of Astronomy and Astrophysics, The Australian National Univ. (Australia); S. Esposito, L. Fini, INAF - Osservatorio Astrofisico di Arcetri (Italy); R. Gardhouse, Research School of Astronomy and Astrophysics, The Australian National Univ. (Australia); T. M. Gauron, Smithsonian Astrophysical Observatory (United States); M. Hart, P. M. Hinz, Steward Observatory, The Univ. of Arizona (United States); S. Kanneganti, Smithsonian Astrophysical Observatory (United States); E. J. Kibblewhite, The Univ. of Chicago (United States); R. P. Knox, Steward Observatory, The Univ. of Arizona (United States); B. A. McLeod, Smithsonian Astrophysical Observatory (United States); T. McMahon, M. Montoya, Steward Observatory, The Univ. of Arizona (United States); T. J. Norton, M. P. Ordway, Smithsonian Astrophysical Observatory (United States); C. d'Orgeville, S. Parcell, P. K. Piatrou, Research School of Astronomy and Astrophysics, The

Australian National Univ. (Australia); E. Pinna, INAF - Osservatorio Astrofisico di Arcetri (Italy); I. Price, Research School of Astronomy and Astrophysics, The Australian National Univ. (Australia); A. Puglisi, F. Quiros-Pacheco, A. Riccardi, INAF - Osservatorio Astrofisico di Arcetri (Italy); J. B. Roll, Smithsonian Astrophysical Observatory (United States); G. Trancho, Giant Magellan Telescope Organization Corp. (United States); K. Uhlendorf, Research School of Astronomy and Astrophysics, The Australian National Univ. (Australia); V. Vaitheeswaran, Steward Observatory, The Univ. of Arizona (United States); M. A. van Dam, Flat Wavefronts (New Zealand); D. Weaver, Smithsonian Astrophysical Observatory (United States); M. Xompero, INAF - Osservatorio Astrofisico di Arcetri (Italy)

- 8447 1J **TMT adaptive optics program status report** [8447-55]
B. L. Ellerbroek, Thirty Meter Telescope Observatory Corp. (United States); S. M. Adkins, W. M. Keck Observatory (United States); D. R. Andersen, J. Atwood, National Research Council Canada (Canada); A. Bastard, CILAS (France); Y. Bo, Technical Institute of Physics and Chemistry (China); M.-A. Boucher, National Research Council Canada (Canada); C. Boyer, Thirty Meter Telescope Observatory Corp. (United States); P. W. G. Byrnes, K. Caputa, National Research Council Canada (Canada); S. Chen, Institute of Optics and Electronics (China); C. Correia, National Research Council Canada (Canada); R. Cousty, CILAS (France); J. T. Fitzsimmons, National Research Council Canada (Canada); L. Gilles, Thirty Meter Telescope Observatory Corp. (United States); J. Gregory, MIT Lincoln Lab. (United States); G. Herriot, National Research Council Canada (Canada); P. Hickson, The Univ. of British Columbia (Canada); A. Hill, J. Pazder, National Research Council Canada (Canada); H. Pagès, CILAS (France); T. Pfrommer, The Univ. of British Columbia (Canada); V. A. Reshetov, S. Roberts, National Research Council Canada (Canada); J.-C. Sinquin, CILAS (France); M. Schoeck, Thirty Meter Telescope Observatory Corp. (United States) and National Research Council Canada (Canada); M. Smith, J.-P. Véran, National Research Council Canada (Canada); L. Wang, Thirty Meter Telescope Observatory Corp. (United States); K. Wei, Institute of Optics and Electronics (China); I. Wevers, National Research Council Canada (Canada)
- 8447 1K **Dual-channel multiple natural guide star wavefront sensor for the E-ELT multiconjugate adaptive optics module** [8447-56]
E. Diolaiti, INAF - Osservatorio Astronomico di Bologna (Italy); L. Schreiber, INAF - Osservatorio Astronomico di Padova (Italy); I. Foppiani, M. Lombini, INAF - Osservatorio Astronomico di Bologna (Italy)
- 8447 1L **Wavefront sensor design for the GMT natural guide star AO system** [8447-57]
S. Esposito, E. Pinna, F. Quirós-Pacheco, A. T. Puglisi, L. Carbonaro, M. Bonaglia, V. Biliotti, R. Briguglio, G. Agapito, INAF - Osservatorio Astrofisico di Arcetri (Italy); C. Arcidiacono, INAF - Osservatorio Astrofisico di Bologna (Italy); L. Busoni, M. Xompero, A. Riccardi, L. Fini, INAF - Osservatorio Astrofisico di Arcetri (Italy); A. Bouchez, Giant Magellan Telescope Organization Corp. (United States)
- 8447 1M **TMT NFIRAOS: adaptive optics system for the Thirty Meter Telescope** [8447-58]
G. Herriot, D. Andersen, J. Atwood, P. Byrnes, NRC Herzberg Institute of Astrophysics (Canada); M.-A. Boucher, INO (Canada); C. Boyer, Thirty Meter Telescope Observatory Corp. (United States); K. Caputa, C. Correia, J. Dunn, NRC Herzberg Institute of Astrophysics (Canada); B. Ellerbroek, Thirty Meter Telescope Observatory Corp. (United States); J. Fitzsimmons, NRC Herzberg Institute of Astrophysics (Canada); L. Gilles, Thirty Meter

Telescope Observatory Corp. (United States); P. Hickson, The Univ. of British Columbia (Canada); A. Hill, D. Kerley, J. Pazder, V. Reshetov, S. Roberts, M. Smith, J.-P. Véran, NRC Herzberg Institute of Astrophysics (Canada); L. Wang, Thirty Meter Telescope Observatory Corp. (United States); I. Wevers, NRC Herzberg Institute of Astrophysics (Canada)

SESSION 15 WAVEFRONT SENSING III

- 8447 1O **LIFT, a noise-effective low order focal-plane sensor: from theory to full experimental validation** [8447-60]
C. Plantet, ONERA (France); B. Neichel, Gemini Southern Observatory (Chile); S. Meimon, T. Fusco, J.-M. Conan, ONERA (France)

SESSION 16 LASER SYSTEM TESTS

- 8447 1Q **Gemini South multi-conjugate adaptive optics (GeMS) laser guide star facility on-sky performance results** [8447-62]
C. d'Orgeville, Research School of Astronomy and Astrophysics, The Australian National Univ. (Australia) and Gemini Observatory (Chile); S. Diggs, V. Fesquet, B. Neichel, W. Rambold, Gemini Observatory (Chile); F. Rigaut, Research School of Astronomy and Astrophysics, The Australian National Univ. (Australia) and Gemini Observatory (Chile); A. Serio, C. Araya, G. Arriagada, R. Balladares, Gemini Observatory (Chile); M. Bec, Giant Magellan Telescope Organization Corp. (United States); M. Boccas, C. Duran, A. Ebberts, A. Lopez, C. Marchant, E. Marin, V. Montes, C. Moreno, E. Petit Vega, C. Segura, Gemini Observatory (Chile); G. Trancho, Giant Magellan Telescope Organization Corp. (United States); C. Trujillo, C. Urrutia, P. Veliz, T. Vucina, Gemini Observatory (Chile)
- 8447 1R **Photon returns test of the pulsed sodium guide star laser on the 1.8 meter telescope** [8447-63]
K. Wei, Institute of Optics and Electronics (China); Y. Bo, Technical Institute of Physics and Chemistry (China); X. Xue, Univ. of Science and Technology of China (China); X. Cheng, Wuhan Institute of Physics and Mathematics (China); C. Li, Institute of Optics and Electronics (China); J. Zuo, S. Xie, Technical Institute of Physics and Chemistry (China); C. Rao, Y. Zhang, Institute of Optics and Electronics (China)

SESSION 17 ADVANCES IN AO CONTROL II

- 8447 1S **Advanced control of low order modes in laser guide star multi-conjugate adaptive optics systems** [8447-64]
C. Correia, J.-P. Véran, G. Herriot, NRC Herzberg Institute of Astrophysics (Canada); B. Ellerbroek, L. Wang, L. Gilles, Thirty Meter Telescope Observatory Corp. (United States)
- 8447 1T **Ensemble Transform Kalman Filter, a nonstationary control law for complex AO systems on ELTs: theoretical aspects and first simulations results** [8447-65]
M. Gray, B. Le Roux, Lab. d'Astrophysique de Marseille, Aix-Marseille Univ., CNRS (France)

- 8447 1U **Evidence that wind prediction with multiple guide stars reduces tomographic errors and expands MOAO field of regard** [8447-66]
S. M. Ammons, L. Poyneer, Lawrence Livermore National Lab. (United States); D. T. Gavel, R. Kupke, C. E. Max, UCO Lick Observatory, Univ. of California, Santa Cruz (United States); L. Johnson, National Solar Observatory (United States)
- 8447 1V **Experimental comparison of tomographic control schemes using the ONERA WFAO facility** [8447-67]
A. Parisot, ONERA (France) and Lab. d'Astrophysique de Marseille (France); C. Petit, ONERA (France); T. Fusco, ONERA (France) and Lab. d'Astrophysique de Marseille (France); J.-M. Conan, ONERA (France)

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- 8447 1X **How ELTs will acquire the first spectra of rocky habitable planets** [8447-69]
O. Guyon, Subaru Telescope, National Astronomical Observatory of Japan (United States), Steward Observatory, Univ. of Arizona (United States), and College of Optical Sciences, Univ. of Arizona (United States); F. Martinache, Subaru Telescope, National Astronomical Observatory of Japan (United States); E. Cady, Jet Propulsion Lab. (United States); R. Belikov, NASA Ames Research Ctr. (United States); K. Balasubramanian, D. Wilson, Jet Propulsion Lab. (United States); C. Clergeon, Subaru Telescope, National Astronomical Observatory of Japan (United States); M. Mateen, College of Optical Sciences, The Univ. of Arizona (United States)
- 8447 1Y **The Subaru coronagraphic extreme AO project: first observations** [8447-70]
F. Martinache, Subaru Telescope, National Astronomical Observatory of Japan (United States); O. Guyon, Subaru Telescope, National Astronomical Observatory of Japan (United States) and The Univ. of Arizona (United States); C. Clergeon, V. Garrel, Subaru Telescope, National Astronomical Observatory of Japan (United States) and Observatoire de Paris-Meudon (France); C. Blain, Univ. of Victoria (Canada)
- 8447 1Z **The SPHERE XAO system SAXO: integration, test, and laboratory performance** [8447-71]
C. Petit, J.-F. Sauvage, ONERA (France); A. Sevin, LESIA (France); A. Costille, IPAG (France); T. Fusco, ONERA (France); P. Baudoz, LESIA (France); J.-L. Beuzit, IPAG (France); T. Buey, LESIA (France); J. Charton, IPAG (France); K. Dohlen, LAM (France); P. Feautrier, IPAG (France); E. Fedrigo, European Southern Observatory (Germany); J.-L. Gach, LAM (France); N. Hubin, European Southern Observatory (Germany); E. Hugot, LAM (France); M. Kasper, European Southern Observatory (Germany); D. Mouillet, IPAG (France); D. Perret, LESIA (France); P. Puget, IPAG (France); J.-C. Siquin, CILAS (France); C. Soenke, M. Suarez, European Southern Observatory (Germany); F. Wildi, Observatoire de Genève (Switzerland)
- 8447 20 **Project 1640: the world's first ExAO coronagraphic hyperspectral imager for comparative planetary science** [8447-72]
B. R. Oppenheimer, American Museum of Natural History (United States); C. Beichman, California Institute of Technology (United States); D. Brenner, American Museum of Natural History (United States); R. Burruss, E. Cady, Jet Propulsion Lab. (United States); J. Crepp, L. Hillenbrand, S. Hinkley, California Institute of Technology (United States); E. R. Ligon, T. Lockhart, Jet Propulsion Lab. (United States); I. Parry, Institute of Astronomy, Univ. of Cambridge (United Kingdom); L. Pueyo, Johns Hopkins Univ. (United States); E. Rice, American Museum of Natural History (United States); L. C. Roberts, Jr., J. Roberts, M. Shao,

Jet Propulsion Lab. (United States); A. Sivaramakrishnan, R. Soummer, Space Telescope Science Institute (United States); G. Vasisht, F. Vescelus, J. K. Wallace, C. Zhai, Jet Propulsion Lab. (United States); N. Zimmerman, Max-Planck-Institut für Astronomie (Germany)

8447 21 **Extremely fast focal-plane wavefront sensing for extreme adaptive optics** [8447-73]
C. U. Keller, V. Korkiakoski, Leiden Observatory (Netherlands); N. Doelman, TNO Science and Industry (Netherlands); R. Fraanje, R. Andrei, M. Verhaegen, Delft Ctr. for Systems and Control (Netherlands)

8447 22 **On advanced estimation techniques for exoplanet detection and characterization using ground-based coronagraphs** [8447-74]
P. R. Lawson, Jet Propulsion Lab. (United States); L. Poyneer, Lawrence Livermore National Lab. (United States); H. Barrett, College of Optical Sciences, The Univ. of Arizona (United States); R. Frazin, Univ. of Michigan (United States); L. Caucci, College of Optical Sciences, The Univ. of Arizona (United States); N. Devaney, National Univ. of Ireland, Galway (Ireland); L. Furenlid, College of Optical Sciences, The Univ. of Arizona (United States); S. Gładysz, Fraunhofer Institute (Germany); O. Guyon, Steward Observatory, The Univ. of Arizona (United States) and Subaru Telescope, National Astronomical Observatory of Japan (United States); J. Krist, Jet Propulsion Lab. (United States); J. Maire, David Dunlap Institute, Univ. of Toronto (Canada); C. Marois, NRC Herzberg Institute of Astrophysics (Canada); D. Mawet, European Southern Observatory (Chile); D. Mouillet, Lab. d'Astrophysique de l'Observatoire de Grenoble (France); L. Mugnier, ONERA (France); I. Pearson, College of Optical Sciences, The Univ. of Arizona (United States); M. Perrin, Space Telescope Science Institute (United States); L. Pueyo, Johns Hopkins Univ. (United States); D. Savransky, Lawrence Livermore National Lab. (United States)

SESSION 19 AO MODELING, ANALYSIS, AND SIMULATIONS

8447 23 **Computer simulations and real-time control of ELT AO systems using graphical processing units (Invited Paper)** [8447-75]
L. Wang, B. Ellerbroek, Thirty Meter Telescope Project (United States)

8447 24 **Modeling anisoplanatism in the Keck II laser guide star AO system** [8447-76]
M. P. Fitzgerald, G. Witzel, Univ. of California, Los Angeles (United States); M. C. Britton, the Optical Sciences Co. (United States); A. M. Ghez, L. Meyer, B. N. Sifarski, C. Cheng, E. E. Becklin, Univ. of California, Los Angeles (United States); R. D. Campbell, W. M. Keck Observatory (United States); T. Do, Univ. of California, Irvine (United States); J. R. Lu, Institute for Astronomy (United States); K. Matthews, Caltech Optical Observatories (United States); M. R. Morris, Univ. of California, Los Angeles (United States); C. R. Neyman, W. M. Keck Observatory (United States); G. A. Tyler, the Optical Sciences Co. (United States); P. L. Wizinowich, W. M. Keck Observatory (United States); S. Yelda, Univ. of California, Los Angeles (United States)

8447 25 **Size of the halo of the adaptive optics PSF** [8447-77]
S. Gladysz, Fraunhofer Institute of Optronics, System Technologies and Image Exploitation (Germany); M. Le Louarn, N. Yaitsova, European Southern Observatory (Germany); A. Garcia-Rissmann, European Southern Observatory (Germany) and Lab. Nacional de Astrofísica (Brazil); L. Kann, J. D. Drummond, R. L. Johnson, D. Roskey, Air Force Research Lab. (United States)

- 8447 26 **A Fresnel propagation analysis of NFIRAOS/IRIS high-contrast exoplanet imaging capabilities** [8447-78]
C. Marois, J.-P. Véran, C. Correia, National Research Council Canada (Canada)

SESSION 20 POST-PROCESSING OF AO DATA

- 8447 27 **Aperture masking behind AO systems (Invited Paper)** [8447-79]
M. J. Ireland, Macquarie Univ. (Australia), MQ Research Ctr. in Astronomy, Astrophysics and Astrophotonics, Macquarie Univ. (Australia), and Australian Astronomical Observatory (Australia)
- 8447 28 **Adaptive optics point spread function reconstruction project at W. M. Keck Observatory: first results with faint natural guide stars** [8447-80]
L. Jolissaint, aquilAOptics (Switzerland); C. Neyman, W. M. Keck Observatory (United States); J. Christou, Gemini Observatory (United States); P. Wizinowich, W. M. Keck Observatory (United States)
- 8447 29 **Tip/tilt point spread function reconstruction for laser guide star multi-conjugate adaptive optics** [8447-81]
L. Gilles, Thirty Meter Telescope Observatory Corp. (United States); C. Correia, J.-P. Véran, NRC Herzberg Institute of Astrophysics (Canada); L. Wang, B. L. Ellerbroek, Thirty Meter Telescope Observatory Corp. (United States)
- 8447 2A **Temporal convergence of phase spatial covariance matrix measurements in tomographic adaptive optics** [8447-218]
O. Martin, É. Gendron, G. Rousset, F. Vidal, LESIA, Observatoire de Paris, CNRS, Univ. Paris-Diderot (France)

SESSION 21 ADVANCES IN AO CONTROL III

- 8447 2B **First on-sky calibration of an high order adaptive optics system** [8447-83]
E. Pinna, F. Quirós-Pacheco, A. Riccardi, R. Briguglio, A. Puglisi, L. Busoni, INAF - Osservatorio Astrofisico di Arcetri (Italy); C. Arcidiacono, INAF - Osservatorio Astrofisico di Arcetri (Italy) and INAF - Osservatorio Astrofisico di Bologna (Italy); J. Argomedo, INAF - Osservatorio Astrofisico di Arcetri (Italy) and European Southern Observatory (Germany); M. Xompero, INAF - Osservatorio Astrofisico di Arcetri (Italy); E. Marchetti, European Southern Observatory (Germany); S. Esposito, INAF - Osservatorio Astrofisico di Arcetri (Italy)
- 8447 2C **Optimization of adaptive optics correction during observations: algorithms and system parameters identification in closed-loop** [8447-84]
C. Béchet, M. Tallon, É. Thiébaud, Univ. Lyon 1, Ctr. de Recherche Astronomique de Lyon, CNRS, Ecole Normale Supérieure de Lyon (France)
- 8447 2D **Calibration strategy of the AOF** [8447-85]
J. Kolb, P.-Y. Madec, M. Le Louarn, N. Muller, European Southern Observatory (Germany); C. Béchet, Ctr. de Recherche Astronomique de Lyon (France)

- 8447 2E **A high-performance FPGA platform for adaptive optics real-time control** [8447-86]
H. Zhang, Z. Ljusic, G. Hovey, J.-P. Veran, G. Herriot, National Research Council Canada (Canada); M. Dumas, Lyrtech RD Inc. (Canada)
- 8447 2F **Design and implementation of the PALM-3000 real-time control system** [8447-87]
T. N. Truong, Jet Propulsion Lab. (United States); A. H. Bouchez, Giant Magellan Telescope Organization Corp. (United States); R. S. Burruss, Jet Propulsion Lab. (United States); R. G. Dekany, S. R. Guiwits, California Institute of Technology (United States); J. E. Roberts, J. C. Shelton, M. Troy, Jet Propulsion Lab. (United States)

SESSION 22 WAVEFRONT CORRECTORS II

- 8447 2G **VLT deformable secondary mirror: integration and electromechanical tests results** [8447-88]
R. Biasi, M. Andrighettoni, G. Angerer, C. Mair, D. Pescoller, Microgate S.r.l. (Italy); P. Lazzarini, E. Anaclerio, M. Mantegazza, D. Gallieni, A.D.S. International S.r.l. (Italy); E. Vernet, R. Arsenault, P.-Y. Madec, P. Duhoux, European Southern Observatory (Germany); A. Riccardi, M. Xompero, R. Briguglio, INAF - Osservatorio Astrofisico di Arcetri (Italy); M. Manetti, M. Morandini, Politecnico di Milano (Italy)
- 8447 2H **Manufacturing of glassy thin shell for adaptive optics: results achieved** [8447-89]
F. Poutriquet, A. Rinchet, J. L. Carel, H. Leplan, E. Ruch, R. Geyl, G. Marque, Sagem Défense Sécurité (France)

SESSION 23 WAVEFRONT SENSING IV

- 8447 2I **Global wavefront sensing for extremely large telescopes** [8447-90]
R. Ragazzoni, INAF - Osservatorio Astronomico di Padova (Italy); M. Bergomi, INAF - Osservatorio Astronomico di Padova (Italy) and Univ. degli Studi di Padova (Italy); A. Brunelli, M. Dima, J. Farinato, D. Magrin, INAF - Osservatorio Astronomico di Padova (Italy); L. Marafatto, Univ. degli Studi di Padova (Italy); V. Viotto, INAF - Osservatorio Astronomico di Padova (Italy)
- 8447 2J **An interferometric wavefront sensor for high-sensitivity low-amplitude measurements** [8447-91]
N. A. Bharmal, R. M. Myers, A. G. Basden, A. P. Reeves, Durham Univ. (United Kingdom)
- 8447 2K **A phase-shifting Zernike wavefront sensor for the Palomar P3K adaptive optics system** [8447-92]
J. K. Wallace, S. Crawford, F. Loya, J. Moore, Jet Propulsion Lab. (United States)
- 8447 2L **Fast computer-free holographic adaptive optics** [8447-93]
G. Andersen, F. Ghebremichael, R. Gaddipati, P. Gaddipati, HUA Inc. (United States)

POSTER SESSION: ADVANCES IN AO CONTROL

- 8447 2M **The wavefront correction control system for the Advanced Technology Solar Telescope** [8447-94]
E. K. Kinney, K. Richards, L. Johnson, T. R. Rimmele, S. C. Barden, National Solar Observatory (United States)
- 8447 2N **Adaptive optics real time processing design for the advanced technology solar telescope** [8447-95]
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A. Arya, Mississippi State Univ. (United States); A. Papadopoulos, Aristotle Univ. of Thessaloniki (Greece); A. N. Ramaprakash, Inter-Univ. Ctr. for Astronomy and Astrophysics (India); R. G. Dekany, Caltech Optical Observatories (United States)
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