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Space Telescopes and Instrumentation 2014: Ultraviolet to Gamma Ray

Tadayuki Takahashi
Jan-Willem A. den Herder
Mark Bautz
Editors

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- 9144 18 **Optical design for a survey x-ray telescope** [9144-43]
T. T. Saha, W. W. Zhang, NASA Goddard Space Flight Ctr. (United States); R. S. McClelland, SGT, Inc. (United States)
- 9144 19 **Next generation hard x-ray/soft gamma-ray optic design and implementation** [9144-44]
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- 9144 1A **Fabrication of large-area and low mass critical-angle x-ray transmission gratings** [9144-45]
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- 9144 1D **Measuring the performance of adjustable x-ray optics with wavefront sensing** [9144-48]
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- 9144 1E **Development of the x-ray timing and polarization telescope optics** [9144-49]
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- 9144 1F **Miniature lightweight x-ray optics (MiXO) for solar system exploration** [9144-50]
J. Hong, Harvard Univ. (United States); S. Romaine, Smithsonian Astrophysical Observatory (United States)
- 9144 1H **Development of light weight replicated x-ray optics, II** [9144-52]
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- 9144 1J **WPOL: a DSSD-based hard x-ray wide field imager and polarimeter** [9144-54]
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- 9144 1K **The use of laterally graded multilayer mirrors for soft x-ray polarimetry** [9144-55]
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- 9144 1L **Development of the depth-graded multilayers for XTP mission** [9144-56]
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- 9144 1M **HARPO: a TPC as a gamma-ray telescope and polarimeter** [9144-57]
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- 9144 1N **Design improvements and x-ray performance of a time projection chamber polarimeter for persistent astronomical sources** [9144-58]
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(United States) and RIKEN (Japan); K. M. Jahoda, NASA Goddard Space Flight Ctr. (United States); P. Kaaret, The Univ. of Iowa (United States); D. S. Nolan, NASA Goddard Space Flight Ctr. (United States) and SGT, Inc. (United States); T. Tamagawa, RIKEN (Japan)

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- 9144 1O **MAXI: all-sky observation from the International Space Station** [9144-59]
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- 9144 1P **The nuclear spectroscopic telescope array (NuSTAR) high-energy x-ray mission** [9144-60]
K. K. Madsen, F. A. Harrison, Space Radiation Lab., California Institute of Technology (United States); H. An, McGill Univ. (Canada); S. E. Boggs, Space Sciences Lab., Univ. of California, Berkeley (United States); F. E. Christensen, DTU Space (Denmark); R. Cook, Space Radiation Lab., California Institute of Technology (United States); W. W. Craig, Space Sciences Lab., Univ. of California, Berkeley (United States); K. Forster, F. Fuerst, B. Grefenstette, Space Radiation Lab., California Institute of Technology (United States); C. J. Hailey, Columbia Univ. (United States); T. Kitaguchi, RIKEN (Japan); C. Markwardt, NASA Goddard Space Flight Ctr. (United States); P. Mao, H. Miyasaka, V. Rana, Space Radiation Lab., California Institute of Technology (United States); D. K. Stern, Jet Propulsion Lab. (United States); W. W. Zhang, NASA Goddard Space Flight Ctr. (United States); A. Zoglauer, Space Sciences Lab., Univ. of California, Berkeley (United States); D. Walton, Space Radiation Lab., California Institute of Technology (United States); N. J. Westergaard, DTU Space (Denmark)
- 9144 1Q **In-flight PSF calibration of the NuSTAR hard x-ray optics** [9144-61]
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- 9144 1R **Inflight performance and calibration of the NuSTAR CdZnTe pixel detectors** [9144-62]
T. Kitaguchi, RIKEN (Japan); V. Bhalerao, Inter-Univ. Ctr. for Astronomy and Astrophysics (India); W. R. Cook, K. Forster, B. W. Grefenstette, F. A. Harrison, K. K. Madsen, P. H. Mao, H. Miyasaka, V. R. Rana, Cahill Ctr. for Astronomy and Astrophysics, California Institute of Technology (United States)

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- 9144 1S **ASTROSAT mission (Invited Paper)** [9144-63]
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Fundamental Research (India); S. Seetha, Indian Space Research Organisation (India); M. C. Ramadevi, ISRO Satellite Ctr. (India); A. R. Rao, Tata Institute of Fundamental Research (India); D. Bhattacharya, Inter-Univ. Ctr. for Astronomy and Astrophysics (India); B. Paul, Raman Research Institute (India); P. Sreekumar, Indian Institute of Astrophysics (India); S. Bhattacharyya, Tata Institute of Fundamental Research (India); G. C. Stewart, Univ. of Leicester (United Kingdom); J. Hutchings, National Research Council Canada (Canada); S. Annapurni, Indian Institute of Astrophysics (India); S. K. Ghosh, Tata Institute of Fundamental Research (India); J. Murthy, A. Pati, N. K. Rao, C. S. Stalin, Indian Institute of Astrophysics (India); V. Girish, K. Sankarasubramanian, ISRO Satellite Ctr. (India); S. Vadawale, Physical Research Lab. (India); V. B. Bhalerao, G. C. Dewangan, Inter-Univ. Ctr. for Astronomy and Astrophysics (India); D. K. Dedhia, M. K. Hingar, T. B. Katoch, A. T. Kothare, I. Mirza, K. Mukerjee, H. Shah, P. Shah, Tata Institute of Fundamental Research (India); R. Mohan, A. K. Sangal, S. Nagabhusana, S. Sriram, Indian Institute of Astrophysics (India); J. P. Malkar, Tata Institute of Fundamental Research (India); S. Sreekumar, Vikram Sarabhai Space Ctr. (India); A. F. Abbey, G. M. Hansford, A. P. Beardmore, Univ. of Leicester (United Kingdom); M. R. Sharma, S. Murthy, R. Kulkarni, G. Meena, V. C. Babu, ISRO Satellite Ctr. (India); J. Postma, Univ. of Calgary (Canada)

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- 9144 1U **Status of ART-XC/SRG instrument** [9144-65]
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- 9144 1V **ART-XC/SRG: status of the x-ray optics development** [9144-66]
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- 9144 1W **Report on the eROSITA camera system** [9144-67]
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- 9144 1X **The calibration and testing of the eROSITA x-ray mirror assemblies** [9144-68]
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- 9144 1Z **Estimation of observation possibility of the x-ray interferometer with an x-ray beam-splitter** [9144-70]
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- 9144 20 **The neutron star interior composition explorer (NICER): mission definition** [9144-71]
Z. Arzoumanian, NASA Goddard Space Flight Ctr. (United States), The Ctr. for Research and Exploration in Space Science and Technology (United States), and Universities Space Research Association (United States); K. C. Gendreau, C. L. Baker, T. Cazeau, P. Hestnes, J. W. Kellogg, S. J. Kenyon, R. P. Kozon, K.-C. Liu, S. S. Manthripragada, C. B. Markwardt, A. L. Mitchell, J. W. Mitchell, C. A. Monroe, T. Okajima, S. E. Pollard, D. F. Powers, B. J. Savadkin, L. B. Winternitz, P. T. Chen, M. R. Wright, NASA Goddard Space Flight Ctr. (United States); R. Foster, G. Prigozhin, R. Remillard, MIT Kavli Institute for Astrophysics and Space Research (United States); J. Doty, Noqi Aerospace, Ltd. (United States)
- 9144 21 **Introduction to the hard x-ray modulation telescope** [9144-72]
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- 9144 22 **The French payload on-board the SVOM French-Chinese mission** [9144-73]
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- 9144 23 **The microchannel x-ray telescope for the gamma-ray burst mission SVOM** [9144-74]
D. Götz, Lab. AIM, CEA-IRFU (France); J. Osborne, Univ. of Leicester (United Kingdom); B. Cordier, J. Paul, Lab. AIM, CEA-IRFU (France); P. Evans, A. Beardmore, A. Martindale, R. Willingale, P. O'Brien, Univ. of Leicester (United Kingdom); S. Basa, C. Rossin, Lab. d'Astrophysique de Marseille, CNRS (France); O. Godet, N. Webb, Institut de Recherche en Astrophysique et Planétologie, CNRS, Univ. de Toulouse (France); J. Greiner, K. Nandra, N. Meidinger, Max-Planck-Institut für extraterrestrische Physik (Germany); E. Perinati, A. Santangelo, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); K. Mercier, F. Gonzalez, Ctr. National d'Études Spatiales (France)
- 9144 24 **The x-/gamma-ray camera ECLAIRs for the gamma-ray burst mission SVOM** [9144-75]
O. Godet, G. Nasser, J.-L. Atteia, Observatoire Midi-Pyrénées, IRAP, CNRS, Univ. de Toulouse (France); B. Cordier, CEA-IRFU (France); P. Mandrou, D. Barret, Observatoire Midi-Pyrénées, IRAP, CNRS, Univ. de Toulouse (France); H. Triou, CEA-IRFU (France); R. Pons, C. Amoros, S. Bordon, Observatoire Midi-Pyrénées, IRAP, CNRS, Univ. de Toulouse (France); O. Gevin, CEA-IRFU (France); F. Gonzalez, Ctr. National d'Études Spatiales (France); D. Götz, A. Gros, CEA-IRFU (France); B. Houret, Observatoire Midi-Pyrénées, IRAP, CNRS, Univ. de Toulouse (France); C. Lachaud, AstroParticule et Cosmologie, CNRS, Univ. Paris Diderot (France); K. Lacombe, W. Marty, Observatoire Midi-Pyrénées, IRAP, CNRS, Univ. de Toulouse (France); K. Mercier, Ctr. National d'Études Spatiales (France); D. Rambaud, P. Ramon, G. Rouaix, Observatoire Midi-Pyrénées, IRAP, CNRS, Univ. de Toulouse (France); S. Schanne, CEA-IRFU (France); V. Waegebaert, Observatoire Midi-Pyrénées, IRAP, CNRS, Univ. de Toulouse (France)

Part Two

SESSION 17 FUTURE MISSIONS III: ASTRO-H

- 9144 25 **The ASTRO-H x-ray astronomy satellite** [9144-76]
T. Takahashi, K. Mitsuda, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); R. Kelley, NASA Goddard Space Flight Ctr. (United States); F. Aharonian, Dublin Institute for Advanced Studies (Ireland); H. Akamatsu, SRON Netherlands Institute for Space Research (Netherlands); F. Akimoto, Nagoya Univ. (Japan); S. Allen, Kavli Institute for Particle Astrophysics and Cosmology, Stanford Univ. (United States); N. Anabuki, Osaka Univ. (Japan); L. Angelini, NASA Goddard Space Flight Ctr. (United States); K. Arnaud, Univ. of Maryland (United States); M. Asai, Kavli Institute for Particle Astrophysics and Cosmology, Stanford Univ. (United States); M. Audard, Univ. de Genève (Switzerland); H. Awaki, Ehime Univ. (Japan); P. Azzarello, Univ. de Genève (Switzerland); C. Baluta, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); A. Bamba, Aoyama Gakuin Univ. (Japan); N. Bando, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); M. Bautz, MIT Kavli Institute for Astrophysics and Space Research (United States); T. Bialas, NASA Goddard Space Flight Ctr. (United States); R. D. Blandford, Kavli Institute for Particle

Astrophysics and Cosmology, Stanford Univ. (United States); K. Boyce, L. Brenneman, NASA Goddard Space Flight Ctr. (United States); G. Brown, Lawrence Livermore National Lab. (United States); E. Cackett, Institute of Astronomy, Univ. of Cambridge (United Kingdom); E. Canavan, NASA Goddard Space Flight Ctr. (United States); M. Chernyakova, Dublin Institute for Advanced Studies (Ireland); M. Chiao, NASA Goddard Space Flight Ctr. (United States); P. Coppi, Yale Ctr. for Astronomy and Astrophysics, Yale Univ. (United States); E. Costantini, J. de Plaa, J.-W. den Herder, SRON Netherlands Institute for Space Research (Netherlands); M. DiPirro, NASA Goddard Space Flight Ctr. (United States); C. Done, Durham Univ. (United Kingdom); T. Dotani, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); J. Doty, Noqi Aerospace, Ltd. (United States); K. Ebisawa, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); T. Enoto, RIKEN (Japan); Y. Ezoe, Tokyo Metropolitan Univ. (Japan); A. Fabian, Institute of Astronomy, Univ. of Cambridge (United Kingdom); C. Ferrigno, Univ. de Genève (Switzerland); A. Foster, Harvard-Smithsonian Ctr. for Astrophysics (United States); R. Fujimoto, Kanazawa Univ. (Japan); Y. Fukazawa, Hiroshima Univ. (Japan); S. Funk, Kavli Institute for Particle Astrophysics and Cosmology, Stanford Univ. (United States); A. Furuzawa, Nagoya Univ. (Japan); M. Galeazzi, Univ. of Miami (United States); L. Gallo, Saint Mary's Univ. (Canada); P. Gandhi, Durham Univ. (United Kingdom); K. Gilmore, Kavli Institute for Particle Astrophysics and Cosmology, Stanford Univ. (United States); M. Guainazzi, European Space Research and Technology Ctr. (Netherlands); D. Haas, SRON Netherlands Institute for Space Research (Netherlands); Y. Haba, Aichi Univ. (Japan); K. Hamaguchi, Univ. of Maryland (United States); A. Harayama, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); I. Hatsukade, Univ. of Miyazaki (Japan); K. Hayashi, T. Hayashi, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); K. Hayashida, Osaka Univ. (Japan); J. Hiraga, The Univ. of Tokyo (Japan); K. Hirose, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); A. Hornschemeier, NASA Goddard Space Flight Ctr. (United States); A. Hoshino, Rikkyo Univ. (Japan); J. Hughes, Rutgers, The State Univ. of New Jersey (United States); U. Hwang, Johns Hopkins Univ. (United States); R. Iizuka, Y. Inoue, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); K. Ishibashi, Nagoya Univ. (Japan); M. Ishida, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); K. Ishikawa, RIKEN (Japan); K. Ishimura, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); Y. Ishisaki, Tokyo Metropolitan Univ. (Japan); M. Itoh, Kobe Univ. (Japan); N. Iwata, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); N. Iyomoto, Kyushu Univ. (Japan); C. Jewell, European Space Research and Technology Ctr. (Netherlands); J. Kaastra, SRON Netherlands Institute for Space Research (Netherlands); T. Kallman, NASA Goddard Space Flight Ctr. (United States); T. Kamae, Kavli Institute for Particle Astrophysics and Cosmology, Stanford Univ. (United States); J. Kataoka, Waseda Univ. (Japan); S. Katsuda, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); J. Katsuta, Hiroshima Univ. (Japan); M. Kawaharada, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); N. Kawai, Tokyo Institute of Technology (Japan); T. Kawano, S. Kawasaki, D. Khangaluyan, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); C. Kilbourne, M. Kimball, NASA Goddard Space Flight Ctr. (United States); M. Kimura, Tsukuba Space Ctr. (Japan); S. Kitamoto, Rikkyo Univ. (Japan); T. Kitayama, Toho Univ. (Japan); T. Kohmura, Tokyo Univ. of Science (Japan); M. Kokubun, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); S. Konami, Tokyo Metropolitan Univ. (Japan); T. Kosaka, Kochi Univ. of Technology (Japan); A. Koujelev, Canadian Space Agency (Canada); K. Koyama, Kyoto Univ. (Japan); H. Krimm, NASA Goddard Space Flight Ctr. (United States); A. Kubota, Shibaura Institute of Technology

(Japan); H. Kunieda, Nagoya Univ. (Japan); S. LaMassa, Yale Ctr. for Astronomy and Astrophysics, Yale Univ. (United States); P. Laurent, F. Lebrun, CEA-IRFU (France); M. Leutenegger, NASA Goddard Space Flight Ctr. (United States); O. Limousin, CEA-IRFU (France); M. Loewenstein, NASA Goddard Space Flight Ctr. (United States); K. Long, Space Telescope Science Institute (United States); D. Lumb, European Space Research and Technology Ctr. (Netherlands); G. Madejski, Kavli Institute for Particle Astrophysics and Cosmology, Stanford Univ. (United States); Y. Maeda, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); K. Makishima, The Univ. of Tokyo (Japan); M. Markevitch, C. Masters, NASA Goddard Space Flight Ctr. (United States); H. Matsumoto, Nagoya Univ. (Japan); K. Matsushita, Tokyo Univ. of Science (Japan); D. McCommon, Univ. of Wisconsin-Madison (United States); D. McGuinness, NASA Goddard Space Flight Ctr. (United States); B. McNamara, Univ. of Waterloo (Canada); J. Miko, NASA Goddard Space Flight Ctr. (United States); J. Miller, Univ. of Michigan (United States); E. Miller, MIT Kavli Institute for Astrophysics and Space Research (United States); S. Mineshige, Kyoto Univ. (Japan); K. Minesugi, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); I. Mitsuishi, T. Miyazawa, Nagoya Univ. (Japan); T. Mizuno, Hiroshima Univ. (Japan); K. Mori, Univ. of Miyazaki (Japan); H. Mori, Nagoya Univ. (Japan); F. Moroso, Canadian Space Agency (Canada); T. Muench, K. Mukai, NASA Goddard Space Flight Ctr. (United States); H. Murakami, Tohoku Gakuin Univ. (Japan); T. Murakami, Kanazawa Univ. (Japan); R. Mushotzky, Univ. of Maryland, College Park (United States); H. Nagano, Nagoya Univ. (Japan); R. Nagino, Osaka Univ. (Japan); T. Nakagawa, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); H. Nakajima, Osaka Univ. (Japan); T. Nakamori, Yamagata Univ. (Japan); S. Nakashima, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); K. Nakazawa, The Univ. of Tokyo (Japan); Y. Namba, Chubu Univ. (Japan); C. Natsukari, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); Y. Nishioka, Univ. of Miyazaki (Japan); M. Nobukawa, Kyoto Univ. (Japan); H. Noda, RIKEN (Japan); M. Nomachi, Osaka Univ. (Japan); S. O'Dell, NASA Marshall Space Flight Ctr. (United States); H. Odaka, H. Ogawa, M. Ogawa, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); K. Ogi, Ehime Univ. (Japan); T. Ohashi, Tokyo Metropolitan Univ. (Japan); M. Ohno, Hiroshima Univ. (Japan); M. Ohta, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); T. Okajima, NASA Goddard Space Flight Ctr. (United States); T. Okazaki, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); N. Ota, Nara Women's Univ. (Japan); M. Ozaki, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); F. Paerels, Columbia Univ. (United States); S. Paltani, Univ. de Genève (Switzerland); A. Parmar, European Space Astronomy Ctr. (Spain); R. Petre, NASA Goddard Space Flight Ctr. (United States); C. Pinto, Institute of Astronomy, Univ. of Cambridge (United Kingdom); M. Pohl, Univ. de Genève (Switzerland); J. Pontius, F. S. Porter, K. Pottschmidt, NASA Goddard Space Flight Ctr. (United States); B. Ramsey, NASA Marshall Space Flight Ctr. (United States); R. Reis, Univ. of Michigan (United States); C. Reynolds, Univ. of Maryland, College Park (United States); C. Ricci, Kyoto Univ. (Japan); H. Russell, Institute of Astronomy, Univ. of Cambridge (United Kingdom); S. Safi-Harb, Univ. of Manitoba Winnipeg (Canada); S. Saito, S. Sakai, H. Sameshima, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); K. Sato, Tokyo Univ. of Science (Japan); R. Sato, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); G. Sato, Waseda Univ. (Japan); M. Sawada, Aoyama Gakuin Univ. (Japan); P. Serlemitsos, NASA Goddard Space Flight Ctr. (United States); H. Seta, Saitama Univ. (Japan); Y. Shibano, M. Shida, T. Shimada, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); P. Shirron, NASA Goddard Space Flight Ctr. (United States); A. Simionescu, Institute of Space and

Astronautical Science, Japan Aerospace Exploration Agency (Japan); C. Simmons, NASA Goddard Space Flight Ctr. (United States); R. Smith, Harvard-Smithsonian Ctr. for Astrophysics (United States); G. Sneiderman, Y. Soong, NASA Goddard Space Flight Ctr. (United States); L. Stawarz, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); Y. Sugawara, Chuo Univ. (Japan); S. Sugita, Ehime Univ. (Japan); A. Szymkowiak, Yale Ctr. for Astronomy and Astrophysics, Yale Univ. (United States); H. Tajima, Nagoya Univ. (Japan); H. Takahashi, Osaka Univ. (Japan); H. Takahashi, Hiroshima Univ. (Japan); S. Takeda, Y. Takei, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); T. Tamagawa, RIKEN (Japan); K. Tamura, Nagoya Univ. (Japan); T. Tamura, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); T. Tanaka, Kyoto Univ. (Japan); Y. Tanaka, Hiroshima Univ. (Japan); Y. Tanaka, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); M. Tashiro, Saitama Univ. (Japan); Y. Tawara, Nagoya Univ. (Japan); Y. Terada, Saitama Univ. (Japan); Y. Terashima, Ehime Univ. (Japan); F. Tombesi, NASA Goddard Space Flight Ctr. (United States); H. Tomida, Tsukuba Space Ctr., Japan Aerospace Exploration Agency (Japan); Y. Tsuboi, Chuo Univ. (Japan); M. Tsujimoto, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); H. Tsunemi, Osaka Univ. (Japan); T. Tsuru, H. Uchida, Kyoto Univ. (Japan); H. Uchiyama, Shizuoka Univ. (Japan); Y. Uchiyama, Rikkyo Univ. (Japan); Y. Ueda, Kyoto Univ. (Japan); S. Ueda, Osaka Univ. (Japan); S. Ueno, Tsukuba Space Ctr., Japan Aerospace Exploration Agency (Japan); S. Uno, Nihon Fukushi Univ. (Japan); M. Urry, Yale Ctr. for Astronomy and Astrophysics, Yale Univ. (United States); E. Ursino, Univ. of Miami (United States); C. de Vries, SRON Netherlands Institute for Space Research (Netherlands); A. Wada, S. Watanabe, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); T. Watanabe, NASA Goddard Space Flight Ctr. (United States); N. Werner, Kavli Institute for Particle Astrophysics and Cosmology, Stanford Univ. (United States); N. White, NASA Goddard Space Flight Ctr. (United States); D. Wilkins, Saint Mary's Univ. of Minnesota (United States); S. Yamada, Tokyo Metropolitan Univ. (Japan); T. Yamada, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); H. Yamaguchi, NASA Goddard Space Flight Ctr. (United States); K. Yamaoka, Nagoya Univ. (Japan); N. Yamasaki, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); M. Yamauchi, Univ. of Miyazaki (Japan); S. Yamauchi, Nara Women's Univ. (Japan); T. Yaqoob, NASA Goddard Space Flight Ctr. (United States); Y. Yatsu, Tokyo Institute of Technology (Japan); D. Yonetoku, Kanazawa Univ. (Japan); A. Yoshida, Aoyama Gakuin Univ. (Japan); T. Yuasa, RIKEN (Japan); I. Zhuravleva, Kavli Institute for Particle Astrophysics and Cosmology, Stanford Univ. (United States); A. Zoghbi, Univ. of Maryland, College Park (United States); J. ZuHone, NASA Goddard Space Flight Ctr. (United States)

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ASTRO-H Hard X-ray Telescope (HXT) [9144-77]

H. Awaki, Ehime Univ. (Japan); H. Kunieda, A. Furuzawa, Y. Haba, Nagoya Univ. (Japan); T. Hayashi, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); R. Iizuka, Chuo Univ. (Japan); K. Ishibashi, Nagoya Univ. (Japan); M. Ishida, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); M. Itoh, Kobe Univ. (Japan); T. Kosaka, Kochi Univ. of Technology (Japan); Y. Maeda, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); H. Matsumoto, T. Miyazawa, Nagoya Univ. (Japan); H. Mori, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); H. Nagano, Nagoya Univ. (Japan); Y. Namba, Chubu Univ. (Japan); Y. Ogasaka, Japan Science and Technology Agency (Japan); K. Ogi, Ehime Univ. (Japan); T. Okajima, NASA Goddard Space Flight Ctr. (United States); S. Sugita, Ehime Univ. (Japan); Y. Suzuki, Japan Synchrotron Radiation Research Institute (Japan); K. Tamura, Y. Tawara, Nagoya

Univ. (Japan); K. Uesugi, Japan Synchrotron Radiation Research Institute (Japan); K. Yamashita, Japan Science and Technology Agency (Japan); S. Yamauchi, Nara Women's Univ. (Japan)

9144 27 **The Hard X-ray Imager (HXI) for the ASTRO-H Mission** [9144-78]

G. Sato, Waseda Univ. (Japan); M. Kokubun, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); K. Nakazawa, The Univ. of Tokyo (Japan); T. Enoto, RIKEN (Japan); Y. Fukazawa, Hiroshima Univ. (Japan); A. Harayama, K. Hayashi, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); J. Kataoka, Waseda Univ. (Japan); J. Katsuta, Hiroshima Univ. (Japan); M. Kawaharada, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); P. Laurent, F. Lebrun, O. Limousin, CEA-IRFU (France); K. Makishima, The Univ. of Tokyo (Japan); T. Mizuno, Hiroshima Univ. (Japan); K. Mori, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); T. Nakamori, Yamagata Univ. (Japan); H. Noda, RIKEN (Japan); H. Odaka, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); M. Ohno, Hiroshima Univ. (Japan); M. Ohta, S. Saito, R. Sato, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); H. Tajima, Nagoya Univ. (Japan); H. Takahashi, Hiroshima Univ. (Japan); T. Takahashi, S. Takeda, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); Y. Terada, Saitama Univ. (Japan); H. Uchiyama, Shizuoka Univ. (Japan); Y. Uchiyama, Rikkyo Univ. (Japan); S. Watanabe, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); K. Yamaoka, Nagoya Univ. (Japan); Y. Yatsu, Tokyo Institute of Technology (Japan); T. Yuasa, RIKEN (Japan)

9144 28 **ASTRO-H Soft X-ray Telescope (SXT)** [9144-79]

Y. Soong, NASA Goddard Space Flight Ctr. (United States) and Ctr. for Research and Exploration in Space Science and Technology (United States); T. Okajima, P. J. Serlemitsos, NASA Goddard Space Flight Ctr. (United States); S. L. Odell, B. D. Ramsey, M. V. Gubarev, NASA Marshall Space Flight Ctr. (United States); M. Ishida, Y. Maeda, R. Iizuka, T. Hayashi, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); Y. Tawara, A. Furuzawa, H. Mori, T. Miyazawa, H. Kunieda, Nagoya Univ. (Japan); H. Awaki, S. Sugita, Ehime Univ. (Japan); K. Tamura, K. Ishibashi, Nagoya Univ. (Japan); T. Izumiya, Chuo Univ. (Japan); S. Minami, Nara Women's Univ. (Japan); T. Sato, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); K. Tomikawa, N. Kikuchi, Tokyo Metropolitan Univ. (Japan); T. Iwase, Nagoya Univ. (Japan)

9144 29 **Soft X-ray Imager (SXI) onboard ASTRO-H** [9144-80]

K. Hayashida, H. Tsunemi, Osaka Univ. (Japan); T. G. Tsuru, Kyoto Univ. (Japan); T. Dotani, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); H. Nakajima, N. Anabuki, R. Nagino, S. Ueda, Osaka Univ. (Japan); T. Tanaka, H. Uchida, M. Nobukawa, Kyoto Univ. (Japan); M. Ozaki, C. Natsukari, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); J. S. Hiraga, The Univ. of Tokyo (Japan); H. Tomida, M. Kimura, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); T. Kohmura, Tokyo Univ. of Science (Japan); H. Murakami, Tohoku Gakuin Univ. (Japan); K. Mori, M. Yamauchi, I. Hatsukade, Y. Nishioka, Univ. of Miyazaki (Japan); A. Bamba, Aoyama Gakuin Univ. (Japan); S. Katada, Osaka Univ. (Japan); K. K. Nobukawa, Kyoto Univ. (Japan); M. Iwai, K. Kondo, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); T. Takeyoshi, Univ. of Miyazaki (Japan); J. P. Doty, Noqsi Aerospace, Ltd. (United States)

- 9144 2A **Soft x-ray spectrometer (SXS): the high-resolution cryogenic spectrometer onboard ASTRO-H** [9144-81]
 K. Mitsuda, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); R. L. Kelley, NASA Goddard Space Flight Ctr. (United States); H. Akamatsu, SRON Netherlands Institute for Space Research (Netherlands); T. Bialas, K. R. Boyce, NASA Goddard Space Flight Ctr. (United States); G. V. Brown, E. Canavan, M. Chiao, Lawrence Livermore National Lab. (United States); E. Costantini, J.-W. den Herder, C. de Vries, SRON Netherlands Institute for Space Research (Netherlands); M. J. DiPirro, NASA Goddard Space Flight Ctr. (United States); M. E. Eckart, Lawrence Livermore National Lab. (United States); Y. Ezoe, Tokyo Metropolitan Univ. (Japan); R. Fujimoto, Kanazawa Univ. (Japan); D. Haas, SRON Netherlands Institute for Space Research (Netherlands); A. Hoshino, Kanazawa Univ. (Japan); K. Ishikawa, RIKEN (Japan); Y. Ishisaki, Tokyo Metropolitan Univ. (Japan); N. Iyomoto, Kyushu Univ. (Japan); C. A. Kilbourne, M. Kimball, NASA Goddard Space Flight Ctr. (United States); S. Kitamoto, Rikkyo Univ. (Japan); S. Konami, Tokyo Metropolitan Univ. (Japan); M. A. Leutenegger, Lawrence Livermore National Lab. (United States); D. McCammon, Univ. of Wisconsin-Madison (United States); J. Miko, Lawrence Livermore National Lab. (United States); I. Mitsuishi, Nagoya Univ. (Japan); H. Murakami, Tohoku Gakuin Univ. (Japan); M. Murakami, Univ. of Tsukuba (Japan); H. Noda, RIKEN (Japan); M. Ogawa, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); T. Ohashi, Tokyo Metropolitan Univ. (Japan); A. Okamoto, Japan Aerospace Exploration Agency (Japan); N. Ota, Nara Women's Univ. (Japan); S. Paltani, Univ. de Genève (Switzerland); F. S. Porter, NASA Goddard Space Flight Ctr. (United States); K. Sato, Tokyo Univ. of Science (Japan); Y. Sato, Japan Aerospace Exploration Agency (Japan); M. Sawada, Aoyama Gakuin Univ. (Japan); H. Seta, Saitama Univ. (Japan); K. Shinozaki, Japan Aerospace Exploration Agency (Japan); P. J. Shirron, G. A. Sneiderman, NASA Goddard Space Flight Ctr. (United States); H. Sugita, Japan Aerospace Exploration Agency (Japan); A. Szymkowiak, Yale Univ. (United States); Y. Takei, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); T. Tamagawa, RIKEN (Japan); M. S. Tashiro, Y. Terada, Saitama Univ. (Japan); M. Tsujimoto, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); S. Yamada, Tokyo Metropolitan Univ. (Japan); N. Y. Yamasaki, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan)
- 9144 2C **Soft gamma-ray detector (SGD) onboard the ASTRO-H mission** [9144-83]
 Y. Fukazawa, Hiroshima Univ. (Japan); H. Tajima, Nagoya Univ. (Japan); S. Watanabe, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan) and The Univ. of Tokyo (Japan); R. Blandford, Kavli Institute for Particle Astrophysics and Cosmology, Stanford Univ. (United States); K. Hayashi, A. Harayama, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); J. Kataoka, Waseda Univ. (Japan); M. Kawaharada, M. Kokubun, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); P. Laurent, F. Lebrun, O. Limousin, CEA-IRFU (France); G. M. Madejski, Kavli Institute for Particle Astrophysics and Cosmology, Stanford Univ. (United States); K. Makishima, The Univ. of Tokyo (Japan); T. Mizuno, Hiroshima Univ. (Japan); K. Mori, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); T. Nakamori, Yamagata Univ. (Japan); K. Nakazawa, The Univ. of Tokyo (Japan); H. Noda, RIKEN (Japan); H. Odaka, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); M. Ohno, Hiroshima Univ. (Japan); M. Ohta, S. Saito, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); G. Sato, Waseda Univ. (Japan) and Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); R. Sato, S. Takeda, Institute of Space and Astronautical Science, Japan

Aerospace Exploration Agency (Japan); H. Takahashi, Hiroshima Univ. (Japan); T. Takahashi, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan) and The Univ. of Tokyo (Japan); Y. Tanaka, Hiroshima Univ. (Japan); Y. Terada, Saitama Univ. (Japan); H. Uchiyama, Shizuoka Univ. (Japan); Y. Uchiyama, Rikkyo Univ. (Japan); K. Yamaoka, Nagoya Univ. (Japan); Y. Yatsu, Tokyo Institute of Technology (Japan); D. Yonetoku, Kanazawa Univ. (Japan); T. Yuasa, RIKEN (Japan)

SESSION 18 THE NEXT GENERATION: ATHENA I

- 9144 2E **Science requirements and optimization of the silicon pore optics design for the ATHENA mirror** [9144-85]
 R. Willingale, Univ. of Leicester (United Kingdom); G. Pareschi, INAF - Osservatorio Astronomico di Brera (Italy); F. Christensen, DTU Space (Denmark); J.-W. den Herder, SRON Netherlands Institute for Space Research (Netherlands); D. Ferreira, A. Jakobsen, DTU Space (Denmark); M. Ackermann, M. Collon, cosine Research B.V. (Netherlands); M. Bavdaz, European Space Research and Technology Ctr. (Netherlands)
- 9144 2F **Preparing the optics technology to observe the hot universe (Invited Paper)** [9144-86]
 M. Bavdaz, E. Wille, K. Wallace, B. Shortt, S. Fransen, European Space Research and Technology Ctr. (Netherlands); M. Collon, M. Ackermann, G. Vacanti, R. Guenther, cosine Research B.V. (Netherlands); J. Haneveld, M. O. Riekerink, Micronit Microfluidics B.V. (Netherlands); C. van Baren, SRON Netherlands Institute for Space Research (Netherlands); D. Kampf, K.-H. Zuknik, Kayser-Threde GmbH (Germany); F. Christensen, D. Della Monica Ferreira, A. C. Jakobsen, DTU Space (Denmark); M. Krumrey, P. Müller, Physikalisch-Technische Bundesanstalt (Germany); V. Burwitz, Max-Planck-Institut für extraterrestrische Physik (Germany); G. Pareschi, M. Ghigo, INAF - Osservatorio Astronomico di Brera (Italy)
- 9144 2G **Making the ATHENA optics using silicon pore optics** [9144-87]
 M. J. Collon, M. Ackermann, R. Günther, A. Chatbi, cosine Research B.V. (Netherlands); G. Vacanti, M. Vervest, A. Yanson, cosine Science & Computing B.V. (Netherlands); M. W. Beijersbergen, cosine Research B.V. (Netherlands); M. Bavdaz, E. Wille, European Space Research and Technology Ctr. (Netherlands); J. Haneveld, M. O. Riekerink, A. Koelewijn, Micronit Microfluidics B.V. (Netherlands); C. van Baren, SRON Netherlands Institute for Space Research (Netherlands); P. Müller, M. Krumrey, Physikalisch-Technische Bundesanstalt (Germany); V. Burwitz, Max-Planck-Institut für extraterrestrische Physik (Germany); G. Sironi, M. Ghigo, INAF - Osservatorio Astronomico di Brera (Italy)
- 9144 2H **Qualification of silicon pore optics** [9144-88]
 E. Wille, M. Bavdaz, S. Fransen, European Space Research and Technology Ctr. (Netherlands); M. Collon, M. Ackermann, R. Guenther, A. Chatbi, cosine Research B.V. (Netherlands); G. Vacanti, M. Vervest, cosine Science & Computing B.V. (Netherlands); C. van Baren, SRON Netherlands Institute for Space Research (Netherlands); J. Haneveld, M. O. Riekerink, A. Koelewijn, Micronit Microfluidics B.V. (Netherlands); D. Kampf, K.-H. Zuknik, A. Reutlinger, Kayser-Threde GmbH (Germany)

- 9144 2J **The wide field imager instrument for ATHENA (Invited Paper)** [9144-90]
 N. Meidinger, K. Nandra, M. Plattner, M. Porro, A. Rau, Max-Planck-Institut für extraterrestrische Physik (Germany); A. Santangelo, C. Tenzer, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); J. Wilms, Dr.-Remeis-Sternwarte, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany)
- 9144 2K **Prospects and limitations of DEPFET active pixel sensors as high speed spectroscopic x-ray imager for the ATHENA wide field imager** [9144-91]
 S. Aschauer, PNSensor GmbH (Germany); A. Böhr, Max-Planck-Institut für extraterrestrische Physik (Germany); G. Lutz, P. Majewski, L. Strüder, PNSensor GmbH (Germany); J. Treis, Halbleiterlabor der Max-Planck-Gesellschaft (Germany)
- 9144 2L **The X-ray Integral Field Unit (X-IFU) for ATHENA (Invited Paper)** [9144-92]
 L. Ravera, D. Barret, Observatoire Midi-Pyrénées, IRAP, CNRS, Univ. de Toulouse (France); J.-W. den Herder, SRON Netherlands Institute for Space Research (Netherlands); L. Piro, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); R. Clédassou, Ctr. National d'Études Spatiales (France); E. Pointecouteau, P. Peille, Observatoire Midi-Pyrénées, IRAP, CNRS, Univ. de Toulouse (France); F. Pajot, Observatoire Midi-Pyrénées, IRAP, CNRS, Univ. de Toulouse (France) and Institut d'Astrophysique Spatiale (France); M. Arnaud, C. Pigot, CEA-IRFU (France); L. Duband, CEA-INAC (France); C. Cara, CEA-IRFU (France); R. H. den Hartog, L. Gottardi, H. Akamatsu, J. van der Kuur, H. J. van Weers, J. de Plaa, SRON Netherlands Institute for Space Research (Netherlands); C. Macculi, S. Lotti, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); G. Torrioli, Istituto di Fotonica e Nanotecnologie, CNR (Italy); F. Gatti, INFN, Univ. degli Studi di Genova (Italy); L. Valenziano, INAF - IASF Bologna (Italy); M. Barbera, Univ. degli Studi di Palermo (Italy); X. Barcons, M. T. Ceballos, Instituto de Física de Cantabria, CSIC, Univ. de Cantabria (Spain); L. Fàbrega, Institut de Ciència de Materials de Barcelona, CSIC (Spain); J. M. Mas-Hesse, Instituto Nacional de Técnica Aeroespacial, CSIC (Spain); M. J. Page, P. R. Guttridge, Mullard Space Science Lab. (United Kingdom); R. Willingale, Univ. of Leicester (United Kingdom); S. Paltani, L. Genolet, E. Bozzo, Univ. de Genève (Switzerland); G. Rauw, E. Renotte, Univ. de Liège (Belgium); J. Wilms, C. Schmid, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany)
- 9144 2M **Development of TES-based detectors array for the X-ray Integral Field Unit (X-IFU) on the future x-ray observatory ATHENA** [9144-93]
 L. Gottardi, H. Akamatsu, SRON Netherlands Institute for Space Research (Netherlands); D. Barret, Institut de Recherche en Astrophysique et Planétologie (France); M. P. Bruijn, R. H. den Hartog, J.-W. den Herder, H. F. C. Hoevers, SRON Netherlands Institute for Space Research (Netherlands); M. Kiviranta, VTT Technical Research Ctr. of Finland (Finland); J. van der Kuur, A. J. van der Linden, B. D. Jackson, M. Jambunathan, M. L. Ridder, SRON Netherlands Institute for Space Research (Netherlands)
- 9144 2O **Background simulations for the ATHENA X-IFU instrument: impact on the instrumental design** [9144-95]
 S. Lotti, C. Macculi, D. Cea, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); T. Mineo, INAF - Istituto di Astrofisica Spaziale e Fisica Cosmica di Palermo (Italy); E. Perinati, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); L. Natalucci, L. Piro, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy)

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- 9144 2P **Wide-field MAXI: soft x-ray transient monitor on the ISS** [9144-96]
N. Kawai, Tokyo Institute of Technology (Japan); H. Tomida, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); Y. Yatsu, Tokyo Institute of Technology (Japan); T. Mihara, RIKEN (Japan); S. Ueno, M. Kimura, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); M. Arimoto, Tokyo Institute of Technology (Japan); M. Serino, RIKEN (Japan); T. Sakamoto, Aoyama Gakuin Univ. (Japan); H. Tsunemi, Osaka Univ. (Japan); T. Kohmura, Tokyo Univ. of Science (Japan); H. Negoro, Nihon Univ. (Japan); Y. Ueda, Kyoto Univ. (Japan); M. Morii, RIKEN (Japan); Y. Tsuboi, Chuo Univ. (Japan); K. Ebisawa, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); A. Yoshida, Aoyama Gakuin Univ. (Japan)
- 9144 2Q **DIOS: the dark baryon exploring mission** [9144-97]
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- 9144 2R **Formation Flight Astronomical Survey Telescope (FFAST) mission in hard x-ray** [9144-98]
H. Tsunemi, H. Nakajima, N. Anabuki, R. Nagino, Osaka Univ. (Japan); H. Kunieda, H. Matsumoto, Nagoya Univ. (Japan); M. Itoh, Kobe Univ. (Japan); I. Kawano, T. Ikenaga, S. Mitani, T. Yamamoto, Tsukuba Space Ctr. (Japan); M. Ozaki, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); K. Mori, Univ. of Miyazaki (Japan); Y. Ueda, Kyoto Univ. (Japan); T. Kohmura, Tokyo Univ. of Science (Japan)
- 9144 2S **High-z gamma-ray bursts for unraveling the dark ages mission HiZ-GUNDAM** [9144-99]
D. Yonetoku, Kanazawa Univ. (Japan); T. Mihara, RIKEN (Japan); T. Sawano, Kanazawa Univ. (Japan); H. Ikeda, A. Harayama, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); S. Takata, K. Yoshida, H. Seta, A. Toyonago, Y. Kagawa, K. Kawai, Kanazawa Univ. (Japan); N. Kawai, Tokyo Institute of Technology (Japan); T. Sakamoto, Aoyama Gakuin Univ. (Japan); M. Serino, RIKEN (Japan); S. Kurosawa, Tohoku Univ. (Japan); S. Gunji, Yamagata Univ. (Japan); T. Tanimori, Kyoto Univ. (Japan); T. Murakami, Kanazawa Univ. (Japan); Y. Yatsu, Tokyo Institute of Technology (Japan); K. Yamaoka, Nagoya Univ. (Japan); A. Yoshida, Aoyama Gakuin Univ. (Japan); K. Kawabata, Hiroshima Univ. (Japan); T. Matsumoto, Institute of Astronomy (Taiwan); K. Tsumura, Tohoku Univ. (Japan); S. Matsuura, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); M. Shirahata, H. Okita, K. Yanagisawa, National Astronomical Observatory of Japan (Japan); M. Yoshida, Hiroshima Univ. (Japan); K. Motohara, National Astronomical Observatory of Japan (Japan)

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- 9144 2T **The Large Observatory for x-ray timing** [9144-100]
M. Feroci, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy) and INFN (Italy); J.-W. den Herder, SRON Netherlands Institute for Space Research (Netherlands); E. Bozzo, ISDC Data Ctr. for Astrophysics, Univ. de Genève (Switzerland); D. Barret, Institut de Recherche en Astrophysique et Planétologie (France); S. Brandt, DTU Space (France);

M. Hernanz, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); M. van der Klis, Astronomical Institute Anton Pannekoek, Univ. of Amsterdam (Netherlands); M. Pohl, Univ. de Genève (Switzerland); A. Santangelo, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); L. Stella, INAF - Osservatorio Astronomico di Roma (Italy); A. Watts, Astronomical Institute Anton Pannekoek, Univ. of Amsterdam (Netherlands); J. Wilms, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); S. Zane, Mullard Space Science Lab. (United Kingdom); M. Ahangarianabhari, Politecnico di Milano (Italy); C. Albertus, Univ. de Granada (Spain); M. Alford, Washington Univ. (United States); A. Alpar, Sabanci Univ. (Turkey); D. Altamirano, Astronomical Institute Anton Pannekoek, Univ. of Amsterdam (Netherlands); L. Alvarez, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); L. Amati, INAF - IASF Bologna (Italy); C. Amoros, Institut de Recherche en Astrophysique et Planétologie (France); N. Andersson, Univ. of Southampton (United Kingdom); A. Antonelli, ASI Science Data Ctr. (Italy); A. Argan, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); R. Artigue, Institut de Recherche en Astrophysique et Planétologie (France); B. Artigues, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); J.-L. Atteia, Institut de Recherche en Astrophysique et Planétologie (France); P. Azzarello, ISDC Data Ctr. for Astrophysics, Univ. de Genève (Switzerland); P. Bakala, Silesian Univ. in Opava (Czech Republic); G. Baldazzi, Univ. degli Studi di Bologna (Italy); S. Balman, Middle East Technical Univ. (Turkey); M. Barbera, Univ. degli Studi di Palermo (Italy) and INAF-Osservatorio Astronomico di Palermo (Italy); C. van Baren, SRON Netherlands Institute for Space Research (Netherlands); S. Bhattacharyya, Tata Institute of Fundamental Research (India); A. Baykal, Middle East Technical Univ. (Turkey); T. Belloni, INAF - Osservatorio Astronomico di Brera (Italy); F. Bernardini, Wayne State Univ. (United States); G. Bertuccio, Politecnico di Milano (Italy); S. Bianchi, Univ. degli Studi di Roma Tre (Italy); A. Bianchini, Vicolo Osservatorio, Univ. degli Studi di Padova (Italy); P. Binko, ISDC Data Ctr. for Astrophysics, Univ. de Genève (Switzerland); P. Blay, Univ. de València (Spain); F. Bocchino, INAF - Osservatorio Astronomico di Padova (Italy); P. Bodin, Ctr. National d'Études Spatiales (France); I. Bombaci, Univ. degli Studi di Pisa (Italy); J.-M. Bonnet Bidaud, CEA-IRFU (France); S. Boutloukos, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); L. Bradley, Mullard Space Science Lab. (United Kingdom); J. Braga, Instituto Nacional de Pesquisas Espaciais (Brazil); E. Brown, Michigan State Univ. (United States); N. Bucciantini, INAF - Osservatorio Astrofisico di Arcetri (Italy); L. Burderi, Univ. degli Studi di Cagliari (Italy); M. Burgay, INAF - Osservatorio Astronomico di Cagliari (Italy); M. Bursa, Astronomical Institute of the ASCR, v.v.i. (Czech Republic); C. Budtz-Jørgensen, DTU Space (Denmark); E. Cackett, Wayne State Univ. (United States); F. R. Cadoux, Univ. de Genève (Switzerland); P. Caïs, Lab. d'Astrophysique de Bordeaux, CNRS, Univ. de Bordeaux (France); G. A. Calandro, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); R. Campana, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy) and INFN (Italy); S. Campana, INAF - Osservatorio Astronomico di Brera (Italy); F. Capitanio, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); J. Casares, Instituto de Astrofísica de Canarias (Spain); P. Casella, INAF - Osservatorio Astronomico di Roma (Italy); A. J. Castro-Tirado, Instituto de Astrofísica de Andalucía (Spain); E. Cavazzuti, ASI Science Data Ctr. (Italy); P. Cerda-Duran, Univ. de València (Spain); D. Chakrabarty, Massachusetts Institute of Technology (United States); F. Château, CEA-IRFU (France); J. Chenevez, DTU Space (Denmark); J. Coker, R. Cole, Mullard Space Science Lab. (United Kingdom); A. Collura, INAF - Osservatorio Astronomico di Palermo (Italy); R. Cornelisse, Instituto de Astrofísica de Canarias (Spain); T. Courvoisier, ISDC Data Ctr. for Astrophysics, Univ. de Genève (Switzerland); A. Cros, Institut de Recherche en Astrophysique et Planétologie (France); A. Cumming, INAF - Osservatorio Astronomico di Capodimonte (Italy); G. Cusumano, INAF - Istituto di Astrofisica Spaziale e Fisica Cosmica di Palermo (Italy); A. D'Ai, Univ. degli Studi di Palermo (Italy); V. D'Elia, ASI Science Data Ctr. (Italy); E. Del Monte, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy) and INFN (Italy);

A. de Luca, INAF - IASF Milano (Italy); D. de Martino, INAF - Osservatorio Astronomico di Capodimonte (Italy); J. P. C. Dercksen, SRON Netherlands Institute for Space Research (Netherlands); M. de Pasquale, Mullard Space Science Lab. (United Kingdom); A. De Rosa, M. Del Santo, S. Di Cosimo, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); S. Diebold, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); T. Di Salvo, Univ. degli Studi di Palermo (Italy); I. Donnarumma, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); A. Drago, Univ. degli Studi di Ferrara (Italy); M. Durant, Univ. of Toronto (Canada); D. Emmanoulopoulos, Univ. of Southampton (United Kingdom); M. H. Erkut, Istanbul Kültür Univ. (Turkey); P. Esposito, INAF-IASF Milano (Italy); Y. Evangelista, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy) and INFN (Italy); A. Fabian, Univ. of Cambridge (United Kingdom); M. Falanga, International Space Science Institute (Switzerland); Y. Favre, Univ. de Genève (Switzerland); C. Feldman, Univ. of Leicester (United Kingdom); V. Ferrari, Univ. degli Studi di Roma La Sapienza (Italy); C. Ferrigno, ISDC Data Ctr. for Astrophysics, Univ. de Genève (Switzerland); M. Finger, Charles Univ. in Prague (Czech Republic); M. H. Finger, Universities Space Research Association (United States); G. W. Fraser, Univ. of Leicester (United Kingdom); M. Frericks, SRON Netherlands Institute for Space Research (Netherlands); F. Fuschino, INAF - IASF Bologna (Italy); M. Gabler, Univ. de València (Spain); D. K. Galloway, Monash Univ. (Australia); J. L. Galvez Sanchez, E. Garcia-Berro, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); B. Gendre, ASI Science Data Ctr. (Italy); S. Gezari, Univ. of Maryland, College Park (United States); A. B. Giles, Univ. of Tasmania (Australia); M. Gilfanov, Max-Planck-Institut für Astrophysik (Germany); P. Giommi, ASI Science Data Ctr. (Italy); G. Giovannini, M. Giroletti, INAF - Istituto di Radioastronomia (Italy); E. Gogus, Sabanci Univ. (Turkey); A. Goldwurm, AstroParticule et Cosmologie, CNRS, Univ. Paris Diderot (France) and Observatoire de Paris, CEA-IRFU (France); K. Goluchová, Silesian Univ. in Opava (Czech Republic); D. Götz, C. Gouiffes, CEA-IRFU (France); M. Grassi, Univ. degli Studi di Pavia (Italy); P. Groot, Clemson Univ. (United States); M. Gschwender, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); L. Gualtieri, Univ. degli Studi di Roma La Sapienza (Italy); C. Guidorzi, Univ. degli Studi di Ferrara (Italy); L. Guy, ISDC Data Ctr. for Astrophysics, Univ. de Genève (Switzerland); D. Haas, SRON Netherlands Institute for Space Research (Netherlands); P. Haensel, Nicolaus Copernicus Astronomical Ctr. (Poland); M. Hailey, Mullard Space Science Lab. (United Kingdom); F. Hansen, DTU Space (Denmark); D. H. Hartmann, Clemson Univ. (United States); C. A. Haswell, The Open Univ. (United Kingdom); K. Hebel, Technische Univ. Darmstadt (Germany) and GSI Helmholtzzentrum für Schwerionenforschung GmbH (Germany); A. Heger, Monash Univ. (Australia); W. Hermsen, SRON Netherlands Institute for Space Research (Netherlands); J. Homan, Massachusetts Institute of Technology (United States); A. Hornstrup, DTU Space (Denmark); R. Hudec, Astronomical Institute of the ASCR, v.v.i. (Czech Republic) and Czech Technical Univ. in Prague (Czech Republic); J. Huovelin, Univ. of Helsinki (Finland); A. Ingram, Astronomical Institute Anton Pannekoek, Univ. of Amsterdam (Netherlands); J. J. M. In't Zand, SRON Netherlands Institute for Space Research (Netherlands); G. Israel, INAF - Osservatorio Astronomico di Roma (Italy); K. Iwasawa, Institut de Ciències del Cosmos, Univ. de Barcelona (Spain); L. Izzo, Univ. degli Studi di Roma La Sapienza (Italy) and International Ctr. for Relativistic Astrophysics (Italy); H. M. Jacobs, SRON Netherlands Institute for Space Research (Netherlands); F. Jetter, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); T. Johannsen, Perimeter Institute for Theoretical Physics (Canada) and Univ. of Waterloo (Canada); P. Jonker, SRON Netherlands Institute for Space Research (Netherlands); J. Josè, Univ. Politècnica de Catalunya (Spain); P. Kaaret, Michigan state Univ. (United States); G. Kanbach, Max-Planck-Institut für extraterrestrische Physik (Germany); V. Karas, Astronomical Institute of the ASCR, v.v.i. (Czech Republic); D. Karelin, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); D. Kataria, Mullard Space Science Lab. (United Kingdom); L. Keek, Michigan State

Univ. (United States); T. Kennedy, Mullard Space Science Lab. (United Kingdom); D. Klochkov, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); W. Kluzniak, Nicolaus Copernicus Astronomical Ctr. (Poland); K. Kokkotas, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); S. Korpela, Univ. of Helsinki (Finland); C. Kouveliotou, NASA Marshall Space Flight Ctr. (United States); I. Kreykenbohm, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); L. M. Kuiper, SRON Netherlands Institute for Space Research (Netherlands); I. Kuvvetli, DTU Space (Denmark); C. Labanti, INAF - IASF Bologna (Italy); D. Lai, Cornell Univ. (United States); F. K. Lamb, Univ. of Illinois at Urbana-Champaign (United States); P. P. Laubert, SRON Netherlands Institute for Space Research (Netherlands); F. Lebrun, AstroParticule et Cosmologie, CNRS, Univ. Paris Diderot (France) and Observatoire de Paris, CEA-IRFU (France); D. Lin, Institut de Recherche en Astrophysique et Planétologie (France); D. Linder, Mullard Space Science Lab. (United Kingdom); G. Lodato, Univ. degli Studi di Milano (Italy); F. Longo, Univ. degli Studi di Trieste (Italy); N. Lund, DTU Space (Denmark); T. J. Maccarone, Texas Tech Univ. (United States); D. Macera, Politecnico di Milano (Italy); S. Maestre, Institut de Recherche en Astrophysique et Planétologie (France); S. Mahmoodifar, Univ. of Maryland, College Park (United States); D. Maier, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); P. Malcovati, Univ. degli Studi di Pavia (Italy); I. Mandel, Univ. of Birmingham (United Kingdom); V. Mangano, The Pennsylvania State Univ. (United States); A. Manousakis, Nicolaus Copernicus Astronomical Ctr. (Poland); M. Marisaldi, INAF - IASF Bologna (Italy); A. Markowitz, Univ. of California, San Diego (United States); A. Martindale, Univ. of Leicester (United Kingdom); G. Matt, Univ. degli Studi di Roma Tre (Italy); I. M. McHardy, Univ. of Southampton (United Kingdom); A. Melatos, The Univ. of Melbourne (Australia); M. Mendez, Kapteyn Astronomical Institute, Univ. of Groningen (Netherlands); S. Mereghetti, INAF - IASF Milano (Italy); M. Michalska, Space Research Ctr. (Poland); S. Migliari, Institut de Ciències del Cosmos, Univ. de Barcelona (Spain); R. Mignani, INAF-IAF Milano (Italy) and Univ. of Zielona Góra (Poland); M. C. Miller, Univ. of Maryland, College Park (United States); J. Miller, Michigan State Univ. (United States); T. Mineo, INAF - Istituto di Astrofisica Spaziale e Fisica Cosmica di Palermo (Italy); G. Miniutti, Instituto Nacional de Técnica Aeroespacial, CSIC (Spain); S. Morsink, Univ. of Alberta (Canada); C. Motch, Observatoire Astronomique de Strasbourg (France); S. Motta, INAF - Osservatorio Astronomico di Brera (Italy); M. Mouchet, Univ. Paris Diderot 5 (France); G. Mouret, Institut de Recherche en Astrophysique et Planétologie (France); J. Mulačová, DTU Space (Denmark); F. Muleri, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy) and INFN (Italy); T. Muñoz-Darias, Oxford Univ. (United Kingdom); I. Negueruela, Univ. de Alicante (Spain); J. Neilsen, Massachusetts Institute of Technology (United States); A. J. Norton, The Open Univ. (United Kingdom); M. Nowak, Massachusetts Institute of Technology (United States); P. O'Brien, Univ. of Leicester (United Kingdom); P. E. H. Olsen, DTU Space (Denmark); M. Orienti, INAF - Istituto di Radioastronomia (Italy); M. Orío, INAF - Osservatorio Astronomico di Padova (France) and Univ. of Wisconsin-Madison (United States); M. Orlandini, INAF - IASF Bologna (Italy); P. Orleński, Space Research Ctr. (Poland); J. P. Osborne, Univ. of Leicester (United Kingdom); R. Osten, Space Telescope Science Institute (United States); F. Ozel, The Univ. of Arizona (United States); L. Pacciani, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy) and INFN (Italy); M. Paolillo, Seconda Univ. degli Studi di Napoli (Italy); A. Papitto, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); J. M. Paredes, Institut de Ciències del Cosmos, Univ. de Barcelona (Spain); A. Patruno, Leiden Observatory (Netherlands) and ASTRON, the Netherlands Institute for Radio Astronomy (Netherlands); B. Paul, Raman Research Institute (India); E. Perinati, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); A. Pellizzoni, INAF - Osservatorio Astronomico di Cagliari (Italy); A. N. Penacchioni, Univ. degli Studi di Roma La Sapienza (Italy) and International Ctr. for Relativistic Astrophysics (Italy); M. A. Perez, Univ. de Salamanca (Spain); V. Petracek, Czech Technical Univ. in

Prague (Czech Republic); C. Pittori, ASI Science Data Ctr. (Italy); J. Pons, Univ. de Alicante (Spain); J. Portell, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); A. Possenti, INAF - Osservatorio Astronomico di Cagliari (Italy); J. Poutanen, Tuorla Observatory, Univ. of Turku (Finland); M. Prakash, Ohio Univ. (United States); P. Le Provost, CEA-IRFU (France); D. Psaltis, The Univ. of Arizona (United States); D. Rambaud, P. Ramon, Institut de Recherche en Astrophysique et Planétologie (France); G. Ramsay, Armagh Observatory (United Kingdom); M. Rapisarda, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy) and INFN (Italy); A. Rachevski, I. Rashevskaya, INFN (Italy); P. S. Ray, U.S. Naval Research Lab. (United States); N. Rea, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); S. Reddy, Univ. of Washington (United States); P. Reig, Foundation for Research and Technology-Hellas (Greece) and Univ. of Crete (Greece); M. Reina Aranda, Instituto Nacional de Técnica Aeroespacial, CSIC (Spain); R. Remillard, Massachusetts Institute of Technology (United States); C. Reynolds, Univ. of Maryland, College Park (United States); L. Rezzolla, Max-Planck-Institut für Gravitationsphysik (Germany); M. Ribo, Institut de Ciències del Cosmos, Univ. de Barcelona (Spain); R. de la Rie, SRON Netherlands Institute for Space Research (Netherlands); A. Riggio, INAF - Osservatorio Astronomico di Cagliari (Italy); A. Rios, Univ. of Surrey (United Kingdom); P. Rodríguez-Gil, Instituto de Astrofisica de Canarias (Spain) and Univ. de La Laguna (Spain); J. Rodriguez, CEA-IRFU (France); R. Rohlf, ISDC Data Ctr. for Astrophysics, Univ. de Genève (Switzerland); P. Romano, INAF - Osservatorio Astrofisico di Catania (Italy); E. M. R. Rossi, Leiden Observatory (Netherlands); A. Rozanska, Nicolaus Copernicus Astronomical Ctr. (Poland); A. Rousseau, Mullard Space Science Lab. (United Kingdom); F. Ryde, KTH Royal Institute of Technology (Sweden); L. Sabau-Graziati, Instituto Nacional de Técnica Aeroespacial, CSIC (Spain); G. Sala, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); R. Salvaterra, INAF - IASF Milano (Italy); A. Sanna, Kapteyn Astronomical Institute, Univ. of Groningen (Netherlands); J. Sandberg, Jorgen Sandberg Consulting (Denmark); S. Scaringi, Katholieke Univ. Leuven (Belgium); S. Schanne, CEA-IRFU (France); J. Schee, Silesian Univ. in Opava (Czech Republic); C. Schmid, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); S. Shore, Univ. degli Studi di Pisa (Italy); R. Schneider, INAF - Osservatorio Astronomico di Roma (Italy); A. Schwenk, Technische Univ. Darmstadt (Germany); A. D. Schwöpe, Leibniz-Institut für Astrophysik Potsdam (Germany); J.-Y. Seyler, Ctr. National d'Études Spatiales (France); A. Shearer, National Univ. of Ireland, Galway (Ireland); A. Smith, Mullard Space Science Lab. (United Kingdom); D. M. Smith, Univ. of California, Santa Cruz (United States); P. J. Smith, Mullard Space Science Lab. (United Kingdom); V. Sochora, Astronomical Institute of the ASCR, v.v.i. (Czech Republic); P. Soffitta, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); P. Soleri, Kapteyn Astronomical Institute, Univ. of Groningen (Netherlands); A. Spencer, Mullard Space Science Lab. (United Kingdom); B. Stappers, The Univ. of Manchester (United Kingdom); A. W. Steiner, Univ. of Washington (United States); N. Stergioulas, Aristotle Univ. of Thessaloniki (Greece); G. Stratta, ASI Science Data Ctr. (Italy); T. E. Strohmayer, NASA Goddard Space Flight Ctr. (United States); Z. Stuchlik, Silesian Univ. in Opava (Czech Republic); S. Suchy, V. Sulemainov, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); T. Takahashi, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); F. Tamburini, Univ. degli Studi di Padova (Italy); T. Tauris, Argelander Institut für Astronomie, Rheinische Friedrich-Wilhelms-Univ. Bonn (Belgium); C. Tenzer, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); L. Tolos, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); F. Tombesi, Univ. of Maryland, College Park (United States); J. Tomsick, Space Sciences Lab., Univ. of California, Berkeley (United States); G. Torok, Silesian Univ. in Opava (Czech Republic); J. F. Torrejon, Univ. de Alicante (Spain); D. Torres, Institució Catalana de Recerca i Estudis Avançats (Spain); A. Tramacere, ISDC Data Ctr. for Astrophysics, Univ. de Genève (Switzerland); A. Trois, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); R. Turolla, Univ. degli Studi di Padova (Italy); S. Turriziani, Univ. degli Studi di Roma Tor

Vergata (Italy); P. Uter, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); P. Uttley, Astronomical Institute Anton Pannekoek, Univ. of Amsterdam (Netherlands); A. Vacchi, INFN (Italy); P. Varniere, AstroParticule et Cosmologie, CNRS, Univ. Paris Diderot (France) and Observatoire de Paris, CEA-IRFU (France); S. Vaughan, Univ. of Leicester (United Kingdom); S. Vercellone, INAF - IFC (Italy); V. Vrba, Institute of Physics of the ASCR, v.v.i. (Czech Republic); D. Walton, Mullard Space Science Lab. (United Kingdom); S. Watanabe, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan); R. Wawrzaszek, Space Research Ctr. (Poland); N. Webb, Institut de Recherche en Astrophysique et Planétologie (France); N. Weinberg, Massachusetts Institute of Technology (United States); H. Wende, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); P. Wheatley, The Univ. of Warwick (United Kingdom); R. Wijers, R. Wijnands, Astronomical Institute Anton Pannekoek, Univ. of Amsterdam (Netherlands); M. Wille, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); C. A. Wilson-Hodge, NASA Marshall Space Flight Ctr. (United States); B. Winter, Mullard Space Science Lab. (United Kingdom); K. Wood, U.S. Naval Research Lab. (United States); G. Zampa, N. Zampa, INFN (Italy); L. Zampieri, INAF - Osservatorio Astronomico di Padova (Italy); L. Zdunik, A. Zdziarski, Nicolaus Copernicus Astronomical Ctr. (Poland); B. Zhang, Univ. of Nevada, Las Vegas (United States); F. Zwart, SRON Netherlands Institute for Space Research (Netherlands); M. Ayre, T. Boenke, C. Corral van Damme, European Space Research and Technology Ctr. (Netherlands); E. Kuulkers, European Space Astronomy Ctr. (Spain); D. Lumb, European Space Research and Technology Ctr. (Netherlands)

9144 2V

The design of the wide field monitor for the LOFT mission [9144-102]

S. Brandt, DTU Space (Denmark); M. Hernanz, L. Alvarez, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); A. Argan, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy) and INFN (Italy); B. Artigues, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); P. Azzarello, ISDC Data Ctr. for Astrophysics, Univ. de Genève (Switzerland); D. Barret, Institut de Recherche en Astrophysique et Planétologie (France); E. Bozzo, ISDC Data Ctr. for Astrophysics, Univ. de Genève (Switzerland); C. Budtz-Jørgensen, DTU Space (Denmark); R. Campana, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy) and INFN (Italy); A. Cros, Institut de Recherche en Astrophysique et Planétologie (France); E. del Monte, I. Donnarumma, Y. Evangelista, M. Feroci, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy) and INFN (Italy); J. L. Galvez Sanchez, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); D. Götz, CEA Saclay (France); F. Hansen, DTU Space (Denmark); J.-W. den Herder, SRON Netherlands Institute for Space Research (Netherlands); R. Hudec, Astronomical Institute of the ASCR, v.v.i. (Czech Republic); J. Huovelin, Univ. of Helsinki (Finland); D. Karelin, Institut d'Estudis Espacials de Catalunya, CSIC (Spain); S. Korpela, Univ. of Helsinki (Finland); N. Lund, DTU Space (Denmark); M. Michalska, Space Research Ctr. (Poland); P. Olsen, DTU Space (Denmark); P. Orleanski, Space Research Ctr. (Poland); S. Pedersen, DTU Space (Denmark); M. Pohl, Univ. de Genève (Switzerland); A. Rachevski, INFN (Italy); A. Santangelo, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); S. Schanne, CEA Saclay (France); C. Schmid, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany) and Erlangen Ctr. of Astroparticle Physics (Germany); S. Suchy, C. Tenzer, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); A. Vacchi, INFN (Italy); D. Walton, Mullard Space Science Lab. (United Kingdom); J. Wilms, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany) and Erlangen Ctr. of Astroparticle Physics (Germany); G. Zampa, N. Zampa, INFN (Italy); J. in't Zand, SRON Netherlands Institute for Space Research (Netherlands); S. Zane, Mullard Space Science Lab. (United Kingdom); A. Zdziarski, Nicolaus Copernicus Astronomical Ctr. (Poland); F. Zwart, SRON Netherlands Institute for Space Research (Netherlands)

- 9144 2W **The large area detector of LOFT: the Large Observatory for X-ray Timing** [9144-103]
 S. Zane, D. Walton, T. Kennedy, Mullard Space Science Lab. (United Kingdom); M. Feroci, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); J.-W. Den Herder, SRON Netherlands Institute for Space Research (Netherlands); M. Ahangarianabbari, Politecnico di Milano (Italy); A. Argan, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); P. Azzarello, ISDC Data Ctr. for Astrophysics, Univ. de Genève (Switzerland); G. Baldazzi, Univ. degli Studi di Bologna (Italy) and INFN (Italy); M. Barbera, Univ. degli Studi di Palermo (Italy) and INAF - Osservatorio Astronomico di Palermo (Italy); D. Barret, Institut de Recherche en Astrophysique et Planétologie (France); G. Bertuccio, Politecnico di Milano (Italy); P. Bodin, Ctr. National d'Etudes Spatiales (France); E. Bozzo, ISDC Data Ctr. for Astrophysics, Univ. de Genève (Switzerland); L. Bradley, Mullard Space Science Lab. (United Kingdom); F. Cadoux, Univ. de Genève (Switzerland); P. Cais, Lab. d'Astrophysique de Bordeaux, CNRS, Univ. de Bordeaux (France); R. Campana, INAF - IASF Bologna (Italy); J. Coker, Mullard Space Science Lab. (United Kingdom); A. Cros, Institut de Recherche en Astrophysique et Planétologie (France); E. Del Monte, A. De Rosa, S. Di Cosimo, I. Donnarumma, Y. Evangelista, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); Y. Favre, Univ. de Genève (Switzerland); C. Feldman, G. Fraser, Univ. of Leicester (United Kingdom); F. Fuschino, INAF - IASF Bologna (Italy); M. Grassi, Univ. degli Studi di Pavia (Italy); M. R. Hailey, Mullard Space Science Lab. (United Kingdom); R. Hudec, Czech Technical Univ. in Prague (Czech Republic); C. Labanti, INAF - IASF Bologna (Italy); P. Malcovati, Univ. degli Studi di Pavia (Italy); D. Macera, Politecnico di Milano (Italy); M. Marisaldi, INAF - IASF Bologna (Italy); A. Martindale, Univ. of Leicester (United Kingdom); T. Mineo, INAF - Istituto di Astrofisica Spaziale e Fisica Cosmica di Palermo (Italy); F. Muleri, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); M. Nowak, Massachusetts Institute of Technology (United States); M. Orlandini, INAF - IASF Bologna (Italy); L. Pacciani, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); E. Perinati, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); V. Petracek, Czech Technical Univ. in Prague (Czech Republic); M. Pohl, Univ. de Genève (Switzerland); A. Rachevski, INFN (Italy); P. Smith, Mullard Space Science Lab. (United Kingdom); A. Santangelo, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); J.-Y. Seyler, Lab. d'Astrophysique de Bordeaux, CNRS, Univ. de Bordeaux (France); C. Schmid, Dr.-Remeis-Sternwarte, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany) and Erlangen Ctr. for Astroparticle Physics (Germany); P. Soffitta, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); S. Suchy, C. Tenzer, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); P. Uttley, Astronomical Institute Anton Pannekoek, Univ. of Amsterdam (Netherlands); A. Vacchi, G. Zampa, N. Zampa, INFN (Italy); J. Wilms, Dr.-Remeis-Sternwarte, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany) and Erlangen Ctr. for Astroparticle Physics (Germany); B. Winter, Mullard Space Science Lab. (United Kingdom)

POSTER SESSION

- 9144 2X **High efficiency CCD detectors at UV wavelengths** [9144-104]
 E. T. Hamden, Columbia Univ. (United States); A. D. Jewell, Jet Propulsion Lab. (United States); S. Gordon, Columbia Univ. (United States); J. Hennessy, M. E. Hoenk, S. Nikzad, Jet Propulsion Lab. (United States); D. Schiminovich, Columbia Univ. (United States); D. C. Martin, California Institute of Technology (United States)

- 9144 2Y **Performance and validation of a suborbital FUV spatial heterodyne spectro-polarimeter optimized for wide-field observations of interplanetary hydrogen** [9144-105]
W. M. Harris, J. B. Corliss, Lunar and Planetary Lab., The Univ. of Arizona (United States)
- 9144 30 **Multi object spectrograph of the Fireball balloon experiment** [9144-107]
R. Grange, G. R. Lemaître, S. Quiret, B. Milliard, S. Pascal, A. Origné, Lab. d'Astrophysique de Marseille, CNRS, Aix Marseille Univ. (France)
- 9144 31 **SUAVE: a UV telescope for space weather and solar variability studies** [9144-108]
L. Damé, M. Meftah, A. Irbah, A. Hauchecorne, P. Keckhut, E. Quémerais, LATMOS, Institut Pierre-Simon Laplace, CNRS, Univ. Versailles Saint-Quentin en Yvelines (France)
- 9144 32 **The FIREBall-2 UV sample grating efficiency at 200-208 nm** [9144-109]
S. Quiret, B. Milliard, R. Grange, G. R. Lemaître, A. Caillat, M. Belhadi, Lab. d'Astrophysique de Marseille, CNRS, Aix Marseille Univ. (France); A. Cotel, HORIBA Jobin Yvon S.A.S. (France)
- 9144 33 **Improved ground calibration results from Southwest Research Institute Ultraviolet Radiometric Calibration Facility (UV-RCF)** [9144-110]
M. W. Davis, T. K. Greathouse, G. R. Gladstone, K. D. Retherford, D. C. Slater, S. A. Stern, M. H. Versteeg, Southwest Research Institute (United States)
- 9144 34 **An introduction to the IAAT ultraviolet MCP detector development** [9144-111]
S. Hermanutz, J. Barnstedt, S. Diebold, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); H. R. Elsener, EMPA (Switzerland); C. Kalkuhl, N. Kappelmann, M. Pfeifer, T. Schanz, K. Werner, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany)
- 9144 35 **New facilities for Al+MgF₂ coating for 2-m class mirrors for UV** [9144-112]
V. Zhupanov, Luch Research and Production Association (Russian Federation); O. Vlasenko, M. Sachkov, Institute of Astronomy (Russian Federation); V. Fedoseev, Luch Research and Production Association (Russian Federation)
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National d'Études Spatiales (France); P. Mandrou, W. Marty, G. Nasser, D. Rambaud, P. Ramon, G. Rouaix, V. Waeghebaert, Observatoire Midi-Pyrénées, IRAP, CNRS, Univ. de Toulouse (France)

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M. Barbera, Univ. degli Studi di Palermo (Italy); T. Mineo, INAF - Istituto di Astrofisica Spaziale e Fisica Cosmica di Palermo (Italy); E. Perinati, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany)

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 P. Azzarello, E. Bozzo, ISDC Data Ctr. for Astrophysics, Univ. de Genève (Switzerland);
 S. Bugiel, Max-Planck-Institut für Kernphysik (Germany); S. Diebold, Institut für Astronomie
 und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); Y. Evangelista, INAF -
 Istituto di Astrofisica e Planetologia Spaziali (Italy) and INFN (Italy); E. Kendziorra, Institut für
 Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); F. Muleri,
 INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy) and INFN (Italy); E. Perinati, Institut
 für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany);
 A. Rachevski, G. Zampa, N. Zampa, INFN (Italy); M. Feroci, INAF - Istituto di Astrofisica e
 Planetologia Spaziali (Italy) and INFN (Italy); M. Pohl, Univ. de Genève (Switzerland);
 A. Santangelo, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ.
 Tübingen (Germany); A. Vacchi, INFN (Italy)
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 C. Tenzer, Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen
 (Germany); E. Del Monte, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy);
 J.-W. den Herder, SRON Netherlands Institute for Space Research (Netherlands); S. Diebold,
 Institut für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany);
 M. Feroci, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy); A. Rachevski, A. Vacchi,
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 M. Feroci, INAF - Istituto di Astrofisica e Planetologia Spaziali (Italy) and INFN (Italy);
 T. Kennedy, D. Walton, S. Zane, Mullard Space Science Lab. (United Kingdom)
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 Institut de Recherche en Astrophysique et Planétologie (France); Y. Favre, Univ. de
 Genève (Switzerland); M. Gschwender, F. Jetter, A. Santangelo, Institut für Astronomie und
 Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany); S. Schanne, CEA-IRFU
 (France); P. Smith, Mullard Space Science Lab. (United Kingdom); S. Suchy, P. Uter, Institut
 für Astronomie und Astrophysik Tübingen, Eberhard Karls Univ. Tübingen (Germany);
 D. Walton, Univ. de Genève (Switzerland); H. Wende, Institut für Astronomie und Astrophysik
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 INAF - IASF Bologna (Italy) and INFN (Italy); C. Schmid, Dr.-Remeis-Sternwarte, Friedrich-
 Alexander-Univ. Erlangen-Nürnberg (Germany) and Erlangen Ctr. for Astroparticle Physics
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