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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]
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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]
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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

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9144 26 **ASTRO-H Hard X-ray Telescope (HXT) [9144-77]**

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

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

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

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9144 2A

Soft x-ray spectrometer (SXS): the high-resolution cryogenic spectrometer onboard ASTRO-H [9144-81]

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9144 2C

Soft gamma-ray detector (SGD) onboard the ASTRO-H mission [9144-83]

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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]
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- 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]
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- 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]
T. Ohashi, Y. Ishisaki, Y. Ezoe, S. Yamada, S. Yamaguchi, N. Miyazaki, Tokyo Metropolitan Univ. (Japan); Y. Tawara, Nagoya Univ. (Japan); K. Mitsuda, N. Y. Yamasaki, Y. Takei, K. Sakai, K. Nagayoshi, R. Yamamoto, A. Chiba, T. Hayashi, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency (Japan)
- 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)

SESSION 21 THE NEXT GENERATION: LOFT

- 9144 2T **The Large Observatory for x-ray timing** [9144-100]
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9144 2V

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

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9144 2W

The large area detector of LOFT: the Large Observatory for X-ray Timing [9144-103]

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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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