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SYMPOSIUM ON TECHNOLOGICAL REQUIREMENTS FOR FUTURE SPACE ASTRONOMY AND SOLAR-SYSTEM SCIENCE MISSIONS (A7)
Technology Needs for Future Missions, Platforms (3)

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HIGH SPECTRAL RESOLUTION WITH MICRO-CALORIMETERS ON BOARD THE LARGE X-RAY ASTROPHYSICAL OBSERVATORY ATHENA

Abstract

The Athena+ mission concept is designed to implement the Hot and Energetic Universe science theme in the European Space Agency's Cosmic Vision program and has been selected for the L2 mission. The Athena+ science payload consists of a large aperture high angular resolution X-ray optics and twelve meters away, two interchangeable focal plane instruments: the X-ray Integral Field Unit (X-IFU) and the Wide Field Imager (WFI). The X-IFU is a cryogenic X-ray spectrometer, based on a large array of Transition Edge Sensors (TES), offering 2.5 eV spectral resolution, with 5" pixels, over a field of view of 5 arc minutes in diameter. In this paper, these high-spectral-resolution micro-calorimeters will be presented as well as the science objectives.