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Micropore Optics for the SMILE SXI Instrument

Micropore optics (MPOs) have become the optic of choice in recent years for low mass and wide-angle field of view x-ray missions, such as SVOM and Einstein Probe. The Soft X-ray Imager (SXI) instrument for ESA's SMILE mission aims to spectrally map the location, shape and motion of the Earth's magnetosphere as it interacts with high energy particles excited by the Sun's solar wind. To meet this aim, an array of 8 by 4 Photonis MPOs will provide angular coverage of $15.5^\circ \times 26.5^\circ$ over the energy range 0.2 to 2.5 keV. One of the key requirements of the mission is for low optical straylight to reach the detector, so the transmission of visible light through the optic is a key parameter. In this paper the x-ray performance of the individual MPOs, both qualification and flight MPOs, will be presented as well as investigation into their straylight performance and the quality of the optical blocking filter.

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no

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