

Effects of capillary reflection in the performance of the collimator of the Large Area Detector on board LOFT

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Abstract The Large Observatory For X-ray Timing (LOFT) is one of the candidate missions selected by the European Space Agency for an initial assessment phase in the Cosmic Vision programme. It is proposed for the M3 launch slot and has broad scientific goals related to fast timing of astrophysical X-ray sources. LOFT will carry the Large Area Detector (LAD), as one of the two core science instruments, necessary to achieve the challenging objectives of the project. LAD is a collimated detector working in the energy range 2–50 keV with an effective area of approximately 10 m² at 8 keV. The instrument comprises an array of modules located on deployable panels. Lead-glass microchannel plate (MCP) collimators are located in front of the large-area Silicon Drift Detectors (SDD) to reduce the background contamination from off-axis resolved point sources and from the diffuse X-ray background. The

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