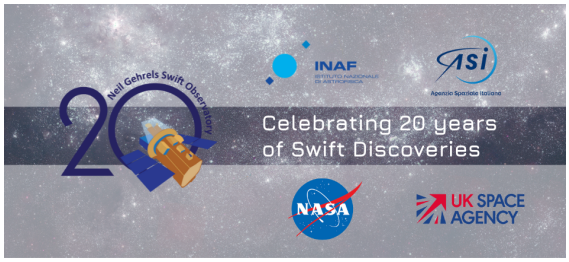

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In-flight spectral cross-calibration of ECLAIRs and GRM on board SVOM

Tuesday 25 March 2025 14:20 (1 minute)

The two high-energy instruments onboard the SVOM satellite, ECLAIRs and GRM, are expected to bring significant contributions in answering fundamental questions on Gamma-Ray Bursts (GRBs) and other high-energy transients. In particular, their joint analysis represents a clear asset compared to other missions for GRB prompt emission spectroscopy (Bernardini et al. 2017). This leads to stringent requirements in terms of inter-calibration between these two instruments. While for a coded mask instrument like ECLAIRs the reconstruction of the flux of bright steady sources in the field of view can be done via imaging technique, for the GRM the use of non-transients sources for calibration purposes can be done via the occultation technique, which requires a careful modelling of the background. In this work we propose a parametric model for the GRM background that is based on simulations of the three main components (CXB, Reflection and Albedo) along the orbit. We show that this is the most suitable model to correctly estimate the flux of steady sources in the GRM field of view, and we apply it to the in-flight observations of the Crab Nebula.

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