



## **A search for Terrestrial Gamma-ray Flashes in the BeppoSAX Gamma-Ray Burst Monitor data archive**

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Serendipitously discovered 20 years ago by the BATSE experiment onboard the CGRO, Terrestrial Gamma-ray Flashes (TGFs) have been observed by several spacecraft, such as RHESSI, AGILE and the Fermi Space Telescope. The Italian/Dutch satellite BeppoSAX, operational in space during the period 1996-2002, represented one of the most important missions in the field of high-energy astrophysics. Its payload housed the Gamma-Ray Burst Monitor (GRBM), a segmented detector that can be considered a sort of "blood relative" of BATSE and that could, in principle, have observed TGFs as well. Motivated by this possibility, we carried out for the first time a systematic quest of possibly observed TGFs throughout the BeppoSAX GRBM data archive. After pointing out the major drawbacks of the GRBM for what concerned the TGF detection, we developed a search algorithm to look for events in the available dataset and performed a set of cross-checks to evaluate the goodness of the selected events. Our search ended up with a sample of 12 TGF candidates. Among these events, we also found a peculiar candidate occurring over Africa, whose temporal and directional features may be the signature of a mirrored electron TGF.