

Earth Occultation Monitoring with the Fermi Gamma ray Burst Monitor

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Using the Gamma Ray Burst Monitor (GBM) on-board Fermi, we are monitoring the hard X-ray/soft gamma ray sky using the Earth occultation technique (EOT). Each time a source in our catalog is occulted by (or exits occultation by) the Earth, we measure its flux using the change in count rates due to the occultation. Currently we are using CTIME data with 8 energy channels spanning 8 keV to 1 MeV for the GBM NaI detectors for daily monitoring. Light curves, updated daily, are available on our website <http://heastro.phys.lsu.edu/gbm>. Our software is also capable of performing the Earth occultation monitoring using up to 128 energy bands, or any combination of those bands, using our 128-channel, 4-s CSPEC data. The GBM BGO detectors, sensitive from about 200 keV to 40 keV, can also be used with this technique. In our standard application of the EOT, we use a catalog of sources to drive the measurements. To ensure that our catalog is complete, our team has developed an Earth occultation imaging method. In this talk, I will describe both techniques and the current data products available. I will highlight recent and important results from the GBM EOT, including the current status of our observations of hard X-ray variations in the Crab Nebula.