The Fermi Gamma-ray Burst Monitor as a Transient Monitor

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GBM NaI Detector (12)
- 8 keV to 1000 keV
- 126 cm$^2$ area, 1.27 cm thickness

GBM BGO Detector (2)
- 200 keV to 40 MeV
- 126 cm$^2$ area, 12.7 cm thick
- Bridges gap between NaI and LAT
Long-term Hard X-ray Variations in the Crab Nebula

Crab flux has been fading for last year, especially above 50 keV!

V404 Cyg Observations with GBM

- V404 Cyg is a black hole binary previously observed in outburst in 1989
- GBM triggered on V404 Cyg 169 times from Jun 15-27
- Peak fluxes measured with Earth occultation in the 8-300 keV band reached 30 Crab
- Power spectra and hardness ratios indicate V404 Cyg was in a hard state for the entire outburst
- Energy spectral analysis indicated that the electron temperature decreased with decreasing luminosity

Type 1 X-ray Bursts Detected with GBM

671 photospheric radius expansion bursts detected in 3 years!

- Highest detection rate of PRE bursts for any current or past instrument
- Search of GBM data from March 2010-2013
  - 671 PRE bursts, 267 accretion flares and X-ray pulses, 65 untriggered GRBs, 84 bursts of unknown origin
- Average blackbody temperature of GBM detected XRBs is $3.2\pm0.3$ keV

Recently Active: V0332+53
- Discovered in 1973
- X-ray pulsar and O8-9Ve star
- 34.25 day eccentric orbit
- 4.3-s spin period
- Newly updated orbital solution

Monitoring Program
- 38 sources monitored
- 35 sources detected
- 8 Persistent, 27 transients

http://gammaray.nsstc.nasa.gov/gbm/science/pulsars.html