

Abstract Submitted
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Time-domain astronomy with the Fermi GBM in the Multimessenger Era C. MICHELLE HUI, NASA/MSFC, FERMI-GBM TEAM — The Fermi Gamma-ray Burst Monitor (GBM) is an all-sky monitoring instrument sensitive to energies from 8 keV to 40 MeV. Its wide field of view and high uptime is ideal for observing the gamma-ray sky simultaneously with gravitational wave and neutrino observatories such as LIGO and IceCube. This collaborative work proved successful by the joint gravitational wave and gamma-ray detections from the binary neutron star merger event GW170817 and GRB 170817A. In addition to the 240 gamma-ray burst (GRB) detections per year, GBM also detects solar flares, terrestrial gamma-ray flashes, and Galactic transients by using the Earth occultation technique and epoch-folding for periodic sources. Since July 2017, candidates from the untargeted search, which searches the high-time-resolution continuous data for weak transients below the threshold of the onboard trigger, have been published by the GCN as Fermi-GBM Subthreshold transients notices. This search finds about 80 short GRBs per year, in addition to the 40 per year triggered on-orbit. Fermi-GBM continues to detect many types of transients since launching in 2008 and is well suited for providing electromagnetic followup in the era of multi-messenger astronomy.

Chiumun Hui
NASA/MSFC

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