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## Fermi Gamma-ray Burst Monitor Capabilities for multi-messenger time-domain astronomy

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Owing to its wide sky coverage and broad energy range, the Fermi Gamma-ray Burst Monitor (GBM) is an excellent observer of the transient hard X-ray sky. GBM detects about 240 triggered Gamma-Ray Bursts (GRBs) per year, including over 30 which also trigger the Swift Burst Alert Telescope (BAT). The number of GRBs seen in common with Swift is smaller than expected from the overlap in sky coverage because GBM is not as sensitive as the BAT and the GBM GRB population is thus skewed to the brighter, closer bursts. This population includes about 45 short GRBs per year, giving GBM an excellent opportunity to observe the electromagnetic counterpart to any gravitational wave candidate resulting from the merger of compact binary members. The same characteristics make GBM an ideal partner for neutrino searches from nearby GRBs, and for the elusive Very-High Energy (VHE) counterparts to GRBs. With the deployment of the next-generation gravitational-wave detectors (Advanced LIGO/VIRGO) and VHE experiments (CTA and HAWC) within the lifetime of the Fermi Gamma-ray Space Telescope, the prospects for breakthrough observations are good.

### Collaboration

FERMI

### Registration number following "ICRC2015-I"

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