

CALET Gamma-ray Burst Monitor: in-flight performance and preliminary results

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The CALET Gamma-ray Burst Monitor (CGBM) is the secondary scientific instrument of the CALET mission on the International Space Station (ISS), which was successfully launched and attached to the International Space Station (ISS) at the end of August 2015 and began scientific operations in October 2015.

The CGBM consists of two LaBr₃(Ce) and one BGO scintillators, each read by a single photomultiplier, with spectral sensitivity 7 keV - 1 MeV and 100 keV - 20 MeV respectively. The primary goal of CGBM is to observe a wide variety of gamma-ray bursts and other X/gamma-ray transients in both temporal regime (with 62.5 μ s resolution of time-tagged data) and spectral range (7 keV - 20 MeV overall energy band). The CGBM has been detecting GRBs with an average rate of ~ 3 per month.

By combining the data of CGBM and CALET primary instrument, Calorimeter (CAL), the energy coverage is extended to the GeV - TeV range. CALET participates in the electromagnetic follow-up campaign to support direct observations of gravitational waves made by LVC collaboration, specifically by investigating the existence of possible X-ray and gamma-ray counterparts.

In this presentation, we report on the CGBM operational status, in-flight performances and preliminary results on GRB observation.

Summary

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