

SYSTEMATIC TIME-RESOLVED SPECTRAL ANALYSIS OF GAMMA-RAY BURSTS DETECTED BY FERMI-GBM

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(on behalf of the Fermi-GBM Team)

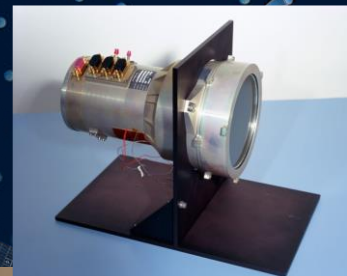
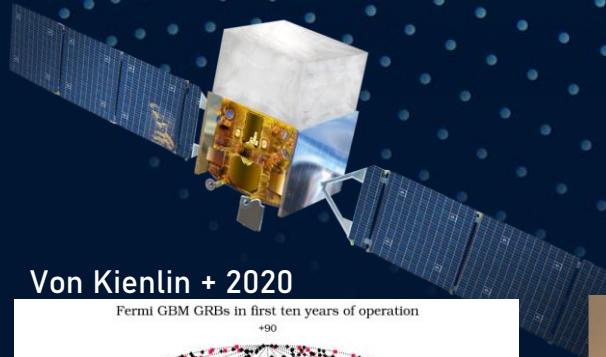
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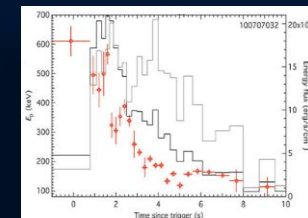
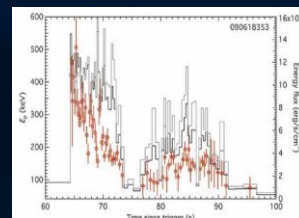
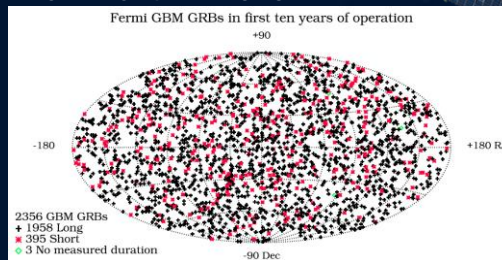


INTRODUCTION

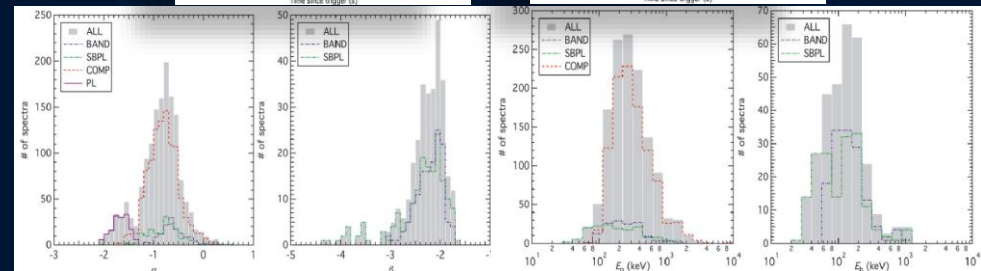
- From the start of the Fermi mission (2008), only 1 time-resolved spectral catalog has been published (Yu et al. 2016)
- Here we present a **systematic time-resolved analysis** of a subsample of bright GRBs from **2008 to 2010**.
- Automatic analysis using **GBM Data Tools** (Python-based API)
- Binning algorithm: **Bayesian Blocks**



Von Kienlin + 2020



Yu + 2016



BURST SELECTION AND ANALYSIS

At least one of these criteria must be satisfied:

- Energy fluence $f > 5 \cdot 10^{-6}$ erg cm⁻²
- Peak photon flux $F_p > 15$ photons cm⁻² s⁻¹ (in either 64 or 1024 ms binning timescales)

After BB, only GRBs with **5 or more bins** covering the source range are selected.

Spectral analysis: **5 models** (PL, COMP, BAND, SBPL, ISSM).

Best model: comparison of **PGSTAT** statistics

