

The Fermi GBM Data Tools and GSpec

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The Fermi Gamma-ray Burst Monitor (GBM) observes a wide variety of high-energy phenomena, spanning astrophysics, heliophysics, and Earth science. Its all-sky monitoring, broad energy range, fine spectral resolution, and fine time resolution make GBM a promising instrument for many different investigations. The GBM Team developed spectral analysis software, RMfit, for the analysis of onboard triggered gamma-ray bursts (GRBs), and now an updated Python-based version is available, GSpec. However, the access to, and analysis of, the overall set of GBM data, including continuous data, is not straightforward for the interested community. To enable community science with GBM, we present the GBM Data Tools, a Python-based API that provides an interface to the GBM data files and catalogs. In addition to the data interface, the GBM Data Tools also provides standard plotting capabilities to quickly plot GBM data, simple reduction tools for binning data and background estimation, and functionality that allows GBM spectral data to be easily used with XSPEC. In fact, GSpec is developed using the GBM Data Tools, and community users will be able to use the Data Tools API to build their own scripts and analysis workflows using GBM data with minimal roadblocks. We will demonstrate some of the capabilities of the GBM Data Tools and GSpec and will receive feedback on future development of features.

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