

## Swift Observation of GRB 081022

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### 1 Introduction

At 14:23:48 UT Swift/BAT triggered and located the long GRB 081022 (trigger=332399) (Stratta et al. GCN Circ 8395).

Due to Sun constraint Swift could not slew to the BAT position and there are no XRT or UVOT data for this burst.

### 2 BAT Observation and Analysis

Using the data set from T-239 to T+903 sec the BAT ground-calculated position is RA (J2000) = 226.584 deg, Dec. (J2000) = 12.409 deg which is RA(J2000) = 15<sup>h</sup> 06<sup>m</sup> 20.1<sup>s</sup>, Dec(J2000) = +12<sup>d</sup> 24' 32.7'' with an uncertainty of 1.4 arcmin (radius, sys+stat, 90% containment). The partial coding was 64%.

The mask-weighted light curve shows a long smooth peak starting at  $\sim$ T-10 sec, peaking around T+50 sec, and ending around T+210 sec.  $T_{90}$  (15-350 keV) is  $160 \pm 40$  sec (estimated error including systematics) (Figure 1).

The time-averaged spectrum from T-9.3 to T+207.3 sec is best fit by a simple power-law model. The power law index of the time-averaged spectrum is  $1.67 \pm 0.11$ . The fluence in the 15-150 keV band is  $(2.5 \pm 0.2) \times 10^{-6}$  erg cm<sup>-2</sup>. The 1-sec peak photon flux measured from T+57.18 sec in the 15-150 keV band is  $(0.6 \pm 0.1)$  ph cm<sup>-2</sup> sec<sup>-1</sup>. All the quoted errors are at the 90% confidence level (Ukwatta et al. GCN Circ 8397).

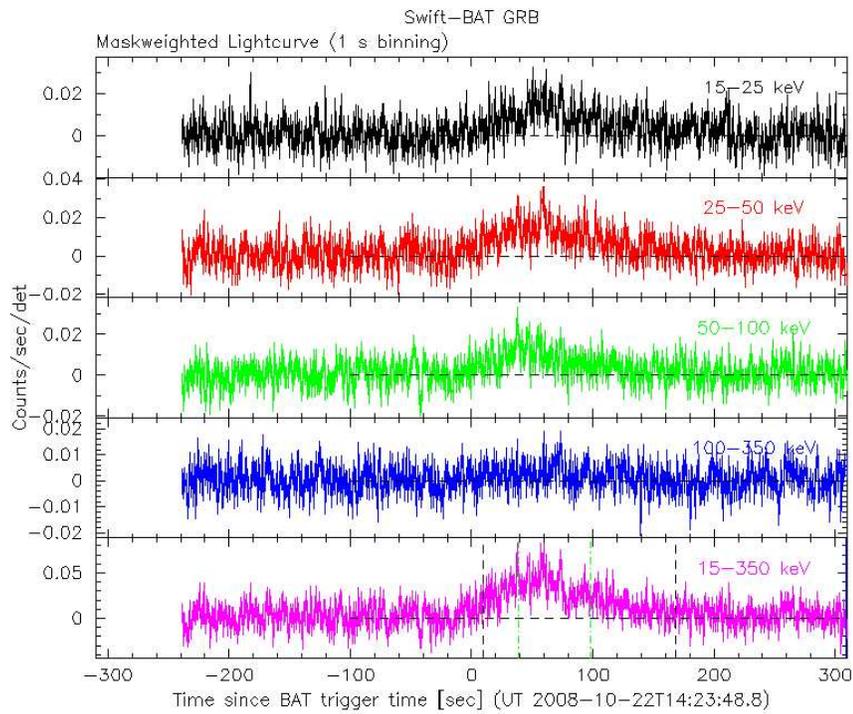


Figure 1: BAT Light curve. The mask-weighted light curve in the 4 individual plus total energy bands. The units are counts  $\text{s}^{-1}$  illuminated-detector $^{-1}$  (note illum-det =  $0.16 \text{ cm}^2$ ).