Swift Observations of GRB 100928A

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1 Introduction

The Swift BAT triggered on and located GRB 100928A at 02:19:52 UT (trigger=435160) (D'Elia et al., GCN Circ. 11310). Due to a Sun observing constraint, Swift could not slew to the BAT position, thus there are no XRT or UVOT data for this trigger.

The best Swift position is the BAT localization at RA(J2000)= 223.037 deg, Dec(J2000)= −28.542 deg, RA(J2000)= $14^{\rm h}52^{\rm m}09.0^{\rm s}$, Dec(J2000)= $-28^{\rm d}$ 32' 32.5", with an error radius of 2.3 arcmin (90% confidence).

2 BAT Observations and Analysis

Using the data set from T-240 s to T+962 s, the BAT ground-calculated position is RA(J2000)= 223.037 deg, Dec(J2000)= −28.542 deg, RA(J2000)= $14^{\rm h}52^{\rm m}09.0^{\rm s}$, Dec(J2000)= $-28^{\rm d}$ 32' 32.5", with an uncertainty of 2.3 arcmin, (radius, sys+stat, 90% containment). The partial coding was 15%.

The mask-weighted light curve (Figure 1) shows a single peak starting at ∼T-1 with a total duration of ∼ 6 sec. T_{90} (15–350 keV) is 3.3 ± 0.6 s (estimated error including systematics).

The time-averaged spectrum from T-0.9 s to T+4.4 s is best fit by a simple power-law model. The power law index of the time-averaged spectrum is 1.79 ± 0.29. The fluence in the 15–150 keV band is $(3.5 \pm 0.6) \times 10^{-7}$ erg cm^{-2}. The 1-second peak photon flux measured from T+1.31 s in the 15–150 keV band is 2.5 ± 0.5 ph cm^{-2} s^{-1}. All the quoted errors are at the 90% confidence level.

The results of the batgrbproduct analysis are available at http://gcn.gsfc.nasa.gov/notices_s/435160/BA/

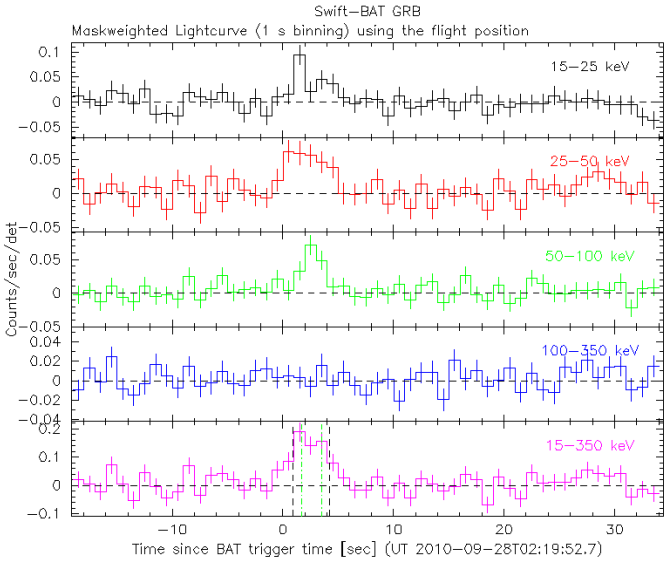

Figure 1: BAT light-curve. The mask-weighted light curve in the 4 individual plus total energy bands. The units are counts s^{-1} illuminated-detector^{-1} (note illum-det = 0.16 cm^2).