GCN Report 301.1 30-Sep-10 Swift Observation of GRB 100917A

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1 Introduction

BAT triggered on GRB 100917A at 05:03:25 UT on the 17^{th} of September 2010 (Trigger 434360) (Littlejohns, et al., GCN Circ. 11288). This was long burst with $T_{90}(15-350\ keV)=66\pm22\ s$. The best position available for this burst is the BAT ground-calculated position, RA(J2000) = 289.250 deg (19h 17m 00.1s), Dec(J2000) = -17.120 deg (-17d 07' 12.1") \pm 2.1 arcmin. Observations of this burst were constrained by its proximity to the Moon, meaning Swift was unable to slew until 06:31:00 UT on the 19^{th} of September. Due to the significant delay after the trigger time, it was decided not to take observations with the XRT and UVOT instruments.

Observations were also performed by TAROT (Klotz, et al., GCN Circ. 11293), however only upper limits were detected with this instrument.

2 BAT Observation and Analysis

Using the data set from T-240 to T+960 s, further analysis of BAT GRB 100917A has been performed by Swift team (Cummings, et al., GCN Circ. 11289). The BAT ground-calculated position is $RA(J2000) = 289.250 \ deg \ (19h \ 17m \ 00.1s), \ Dec(J2000) = -17.120 \ deg \ (-17d \ 07' \ 12.1'') \pm 2.1 \ arcmin,$ (radius, systematic and statistical, 90% containment). The partial coding was 62%.

The masked-weighted light curves (Fig.1) from T-22.128 to T+105.824 s shows a FRED-like profile with a rise time of 5 seconds and a decay time of 30 seconds. $T_{90}(15-350~keV)$ for this burst is $66 \pm 22~s$ (estimated error including systematics).

The time-averaged spectrum from T-2.1 to T+76 s is best fitted by a simple power law model. The power law index of the time-averaged spectrum is 1.67 \pm 0.23. The fluence in the 15-150 keV band is 8.6 \pm 1.2 \times 10⁻⁷ $erg.cm^{-2}$. The one second peak photon flux measured from T+3.22 s in the 15-150 keV band is 0.6 \pm 0.2 $ph.cm^{-2}.s^{-1}$. All the quoted errors are at the 90% confidence level.

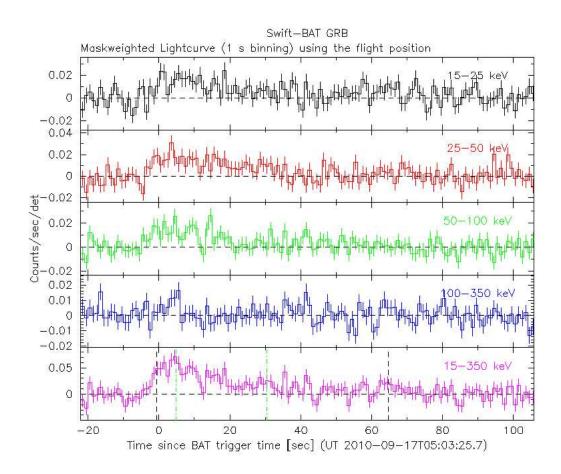


Figure 1: BAT Light curve. The mask-weighted light curve in the 4 individual plus total energy bands. The units are counts/sec/illuminated-detector (note illum-det = $0.16\ cm^2$) and T_0 is 05:03:25 UT.