

## Swift Observations of GRB 120913A

*E.A. Helder (PSU), D. Grupe (PSU), B.-B. Zhang (PSU), W.H Baumgartner (NASA/GSFC), S. D. Barthelmy (NASA/GSFC), J.A. Kennea (PSU), D.N. Burrows (PSU), M.H. Siegel (PSU), and N. Gehrels (NASA/GSFC) for the Swift Team*

### 1 Introduction

At 20:18:21 UT on 2012-09-13, the Swift Burst Alert Telescope (BAT) triggered and located GRB 120913A (trigger=533568), this burst is also detected by Fermi/GBM (Pelassa et al., *GCN Circ.* 13711). Swift did not slew because of the Sun observing constraint. (Helder et al., *GCN Circ.* 13762)

The best *Swift* position of this burst is the BAT position given in Baumgartner et al. (*GCN Circ.* 13769) with RA-2000 = 09h 45m 36.1s, and Dec-2000 = +26° 57' 32.4'' with an uncertainty of 1.2'.

Due to a Sun observing constraint, *Swift* can not observe the afterglow of GRB 120913A until 2012 September 27. No further observations were planned for this burst and therefore no XRT or UVOT data are available for this burst.

### 2 BAT Observation and Analysis

At 20:18:21 UT on 2012-09-13, the Swift Burst Alert Telescope (BAT) triggered and located GRB 120913A (trigger=533568) (Helder et al., *GCN Circ.* 13762). Using the data set from T-240 to T+962 s, the BAT ground-calculated position is RA, Dec = 146.400, 26.959 deg, which is

$$\text{RA(J2000)} = 09\text{h } 45\text{m } 36.1\text{s}$$

$$\text{Dec(J2000)} = +26^\circ 57' 32.4''$$

with an uncertainty of 1.2 arcmin, (radius, sys+stat, 90% containment). The partial coding was 71% (Baumgartner et al. *GCN Circ.* 13769).

The mask-weighted light curve (Figure 1) shows three slightly overlapping FRED peaks: starting at  $\sim T+1$ ,  $\sim T+23$  &  $\sim T+40$  sec, and ending at  $\sim T+42$  s. Due to a slew, the burst location left the BAT FV at  $\sim T+115$  sec.  $T_{90}$  (15-350 keV) is  $30.1 \pm 4.8$  sec (estimated error including systematics).

The time-averaged spectrum from T-0.72 to T+39.80 sec is best fit by a simple power-law model. The power-law index of the time-averaged spectrum is  $2.18 \pm 0.15$ . The fluence in the 15-150 keV band is  $8.7 \pm 0.8 \times 10^{-7}$  ergs  $\text{cm}^{-2}$ . The 1 sec peak photon flux measured from T+22.45 s in the 15-150 keV band is  $2.3 \pm 0.2$  photons  $\text{s}^{-1} \text{cm}^{-2}$ . 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/533568/BA/](http://gcn.gsfc.nasa.gov/notices_s/533568/BA/)

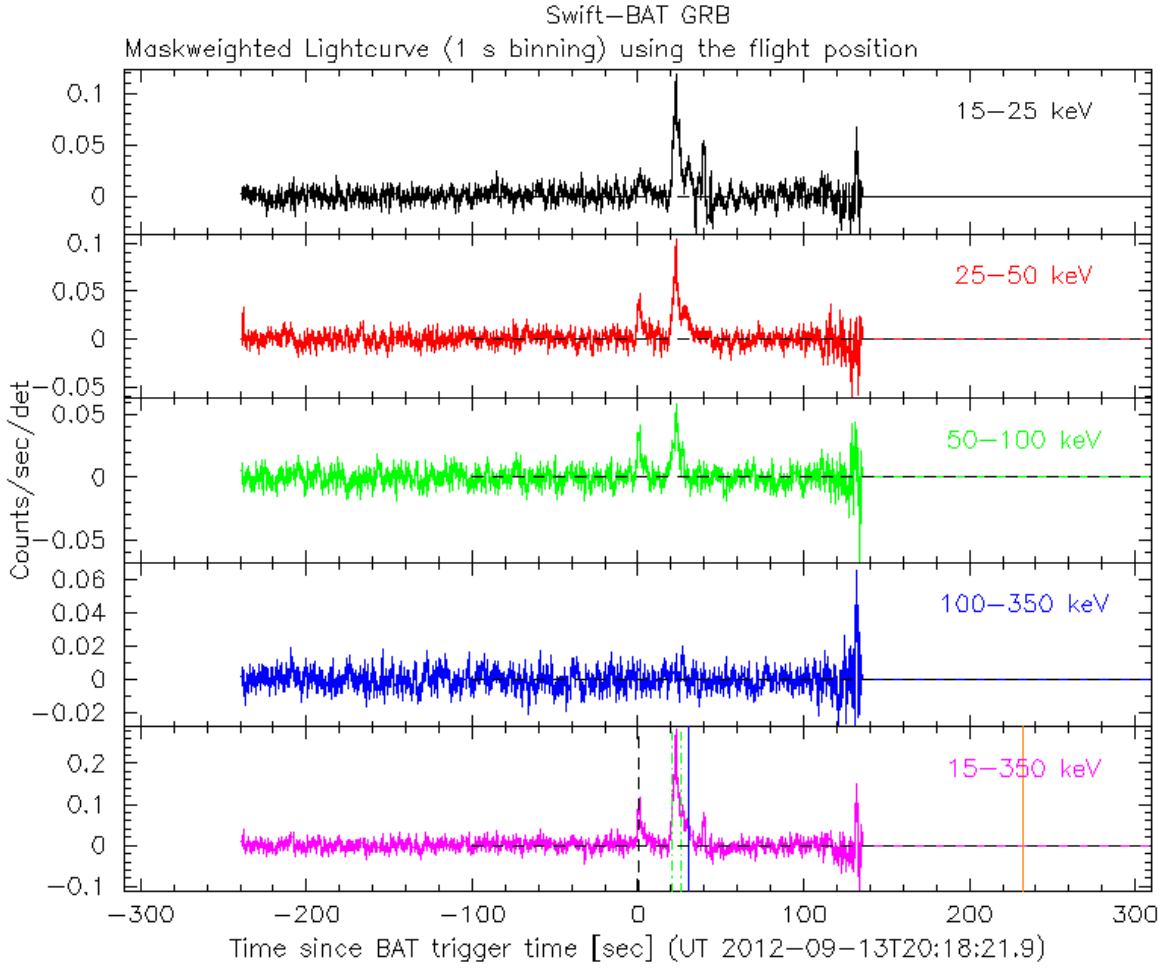


Figure 1: BAT Light curve of GRB 120913A.