

Swift Observations of GRB 100203A

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1. INTRODUCTION

At 18:31:07 UT the Swift Burst Alert Telescope (BAT) triggered on GRB 100203A (trigger 411011). Swift did not slew immediately to the burst because of the low on-board detection significance, but the burst was confirmed with analysis on the ground (Cummings *et al.*, GCN Circ. 10360). While the event appears to be a faint, soft, long GRB, the possibility of it being a Galactic transient cannot be completely excluded. The Galactic coordinates of the source are (205.6, -3.7). No afterglow was seen with the XRT or UVOT (Starling *et al.*, GCN Circ. 10368). There were no GCN Circulars about this burst other than those from Swift.

2) BAT OBSERVATION AND ANALYSIS

The BAT ground-calculated position (Cummings *et al.*, GCN Circ. 10360) is RA (J2000) = 06h 24m 54s and Dec (J2000) = 04° 47' 33" with an uncertainty of 2.0' (90% containment radius including both statistical and systematic errors).

The light curve (Figure 1) shows three well-separated peaks, each about 10 seconds long, at about T-50 s, T+0 s, and T+60 s. The time-averaged spectrum from T-3 to T+7 s is best fit by a simple power-law model with a photon index of 1.57 ± 0.20 .

3. XRT OBSERVATIONS AND ANALYSIS

The XRT began observing GRB 100203A about 25.7 hours after the BAT trigger. No source was detected in a 3.85 ks observation (Starling *et al.*, GCN Circ. 10368) with a 3- σ upper limit at the BAT position of 6×10^{-3} ct s⁻¹. The Galactic absorption in the direction of the source is 5.3×10^{21} cm⁻².

4. UVOT OBSERVATIONS AND ANALYSIS

The Swift/UVOT observed the field of GRB 100203A using the UVM2 filter starting 25.7 hours after the BAT trigger (Starling *et al.*, GCN Circ. 10368). Visual comparison with DSS images of the field reveals no afterglow candidate, but the high extinction and numerous bright stars in the field complicate the search for an afterglow. The preliminary 3- σ upper limit using the UVOT photometric system (Poole *et al.* 2008, MNRAS, 383, 627) is given in Table 1. No correction has been made for the large expected extinction in the Milky Way (Schlegel *et al.* 1998).

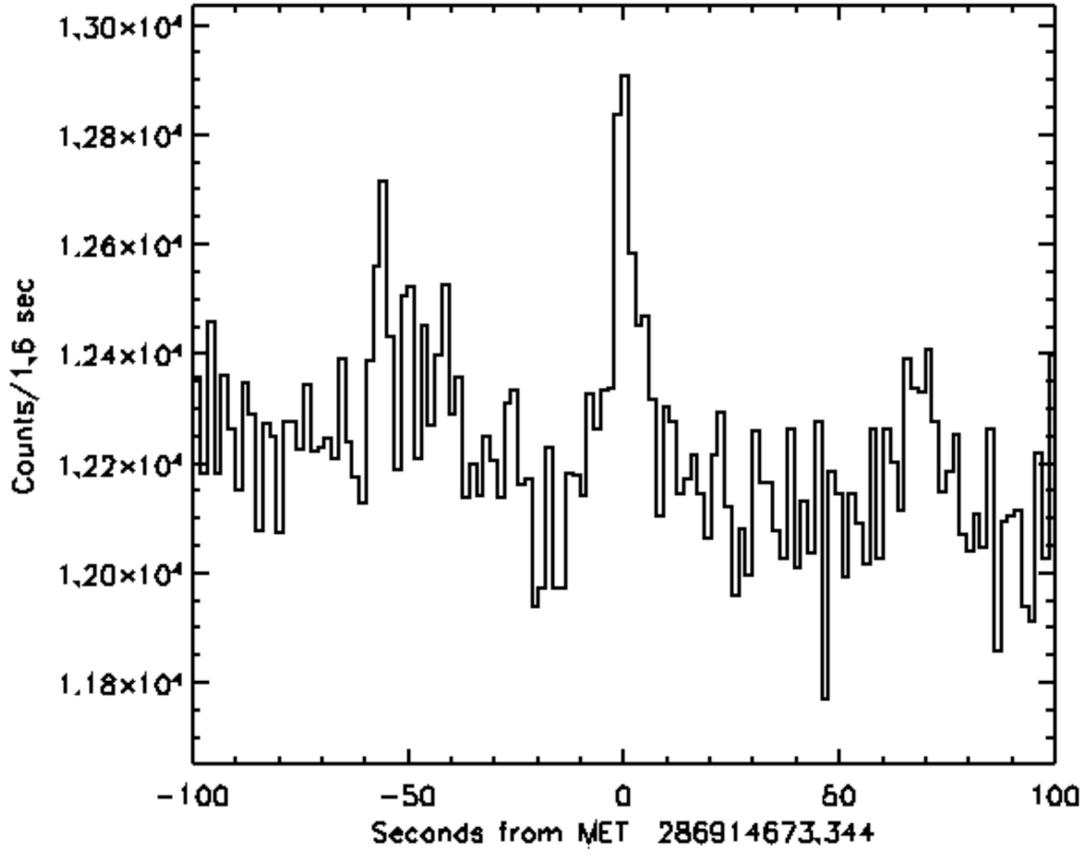


Figure 1: The BAT raw (without background subtraction) light curve in the 15-100 keV energy band.

Filter	T_{start}	T_{stop}	Exposure	Magnitude
	(seconds)	(seconds)	(seconds)	
uvm2	92604	103268	3915	>21.3

Table 1: UVOT Observations. The start and stop times of the exposures are given in seconds since the BAT trigger. The preliminary 3- σ upper limit is given. No correction has been made for the large expected extinction in the Milky Way (Schlegel *et al.* 1998).