

Gamma-Ray Burst Observations of YSTAR

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YSTAR telescope located at the South African Astronomical Observatory (SAAO) regularly receives Gamma-Ray Coordinates Network (GCN) alert signals and runs a rapid automatic observing sequence to find and monitor the optical counterpart of the event. The first fully automatic response was made for the HETE 3693 notice of GRB050316. Our first exposure started 25 seconds after the receipt of GCN packet information, which was released 20 seconds after the HETE detection. Compared with other automatic telescopes around the world, ours was the most rapid reaction for this event. The next early reaction, by a Russian telescope, was made more than 100 seconds after the event discovery. Although no unusual optical counterpart was discovered from the optical images, this is a promising start for our GRB detection scheme. We are also making an effort to cut down the reaction time even further, down to 10 seconds. The optical images obtained by our automatic response sequence are put through our image difference algorithm and also get compared with the USNO star catalogue. The process runs at the site right after the observing sequence, and sends out a notification if an optical counterpart or candidate is found.

This work was supported by Korea Research Foundation Grant (KRF-2002-070-C00045).