

Prompt Optical Photons from Gamma-Ray Bursts

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On January 23, 1999, the ROTSE-I telephoto camera array detected a bright optical transient from a gamma-ray burst, contemporaneous with the gamma-ray emission. This observation by a collaboration of the University of Michigan, Los Alamos National Laboratory and Lawrence Livermore National Laboratory culminated efforts by many people to construct a telescope system with a response of a few seconds. Although ROTSE-I has observed 35 GRB events since it was commissioned in March 1998, no other fast optical counterparts have been detected. In addition to showing the results for GRB990123, data for the other brightest seven GRBs will be presented for which we have better localization information such as IPN arcs. Future plans for the ROTSE project will be discussed in light of these developments.