Abstract Submitted
for the TSF15 Meeting of
The American Physical Society

Gamma Ray Burst Analysis Using ROTSE-III Data RYAN STATEN, Southern Methodist University, ROTSE TEAM — I present results of gamma ray burst (GRB) searches using data from the Robotic Optical Transient Search Experiment-III (ROTSE-III) telescopes. Gamma Ray Bursts are extremely energetic bursts of electromagnetic radiation in the form of gamma rays. They are generally observed in very distant galaxies, most of which are billions of light years away, and are the brightest electromagnetic phenomena known to exist in the universe. The research presented here focuses on the photometry of gamma ray bursts, which measures the flux, or intensity, of these events. While many GRBs are associated with released radiation during a supernova which can last for months, their peak intensity will only last on the order of seconds to minutes. However, during this short amount of time, a GRB can emit as much energy as the Sun will emit during its entire lifespan. Although most of this energy is associated with gamma rays, GRBs display very luminous optical counterparts, which can be detected by the ROTSE-III telescopes.

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Date submitted: 07 Oct 2015 Electronic form version 1.4