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On the search for VHE emission from Fermi LAT Gamma-Ray Bursts with the High Altitude Water Cherenkov Observatory
KATHRYNE SPARKS WOODLE, Penn State University, HAWC COLLABORATION — Gamma-Ray bursts (GRBs) are extremely powerful transient events that occur at cosmological distances. Observations of energy spectra of GRBs can constrain the extra-galactic background light and test Lorentz invariance at high energies as well as provide information about the source itself. The High Altitude Water Cherenkov Observatory (HAWC) is a second-generation extensive air shower detector built near the peak of Sierra Negra in Mexico at an altitude of 4100 m. With its wide field of view (~ 2 sr) and high duty cycle, HAWC is sensitive to gamma rays in the sub-TeV to TeV energy range and can constrain the shape and cutoff of high-energy GRB spectra, especially in conjunction with observations from other detectors such as the Fermi LAT satellite. We will present a likelihood-based search for VHE emission from the Fermi LAT GRBs that occurred in the field of view of HAWC from May 2013 to August 2014.

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