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Search for high energy emission from GRBs with the HAWC Observatory

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The High Altitude Water Cherenkov Observatory (HAWC) is an air shower array currently under construction in Mexico at an altitude of 4100 m. HAWC will consist of 300 large water tanks covering an area of about 22000 square meters and instrumented with 4 photomultipliers each. HAWC's primary purpose is the observation of cosmic gamma-ray sources, including large extended sources and transient phenomena. The high altitude, high duty cycle and large field of view make HAWC an excellent instrument for the detection of prompt high energy component of Gamma-Ray Bursts. With an effective area of >100 square meters at 100 GeV and improved gamma-hadron separation capabilities, HAWC will be almost two orders of magnitude more sensitive to GRBs than its predecessor Milagro. The observations (or non-observations) of GRBs by HAWC will provide important information on the high-energy spectra of GRBs. We will present the projected sensitivity of HAWC to GRBs and the results of GRB searches using the partially built HAWC array, including upper limits on high energy emission from Fermi LAT bursts 130427A, 130504C and 130702A.

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