

Abstract Submitted
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Physics with the HAWC Gamma-Ray Observatory JORDAN GOODMAN, University of Maryland, HAWC COLLABORATION — The High Altitude Water Cherenkov (HAWC) gamma-ray observatory will be a wide field of view, continuously operated, TeV gamma-ray observatory. HAWC is a natural extension of Milagro, which has demonstrated the ability to detect, at TeV energies many of the galactic sources which have been observed by the Fermi LAT in the GeV energy range. Since Milagro was a first generation detector constructed in a pre-existing reservoir at a relatively low elevation (2640m), what Fermi was able to see in several months took Milagro near seven years to see. HAWC will be constructed as a joint Mexican-US collaboration on the Sierra Negra Mountain in Mexico at an elevation of 4100m. The design of HAWC was optimized using the lessons learned from Milagro and will be ~ 15 times more sensitive than Milagro when completed. This improvement in sensitivity will allow HAWC to measure or constrain the TeV spectra of most of the Fermi discovered GeV sources. In addition, above 100 GeV HAWC will be more sensitive than the Fermi and be the only ground-based instrument capable of detecting prompt emission from gamma-ray bursts in this energy regime. This talk will present the physics capabilities of HAWC as well as its status.

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