

Abstract Submitted
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HAWC (High Altitude Water Cherenkov) Observatory for Surveying the TeV Sky¹ BRENDA DINGUS, Los Alamos National Lab, HAWC COLLABORATION — The HAWC observatory is a proposed, large field of view (~ 2 sr), high duty cycle ($>95\%$) TeV gamma-ray detector which uses a large pond of water (150 m x 150 m) located at 4300 m elevation. The pond contains 900 photomultiplier tubes (PMTs) to observe the relativistic particles and secondary gamma rays in extensive air showers. This technique has been used successfully by the Milagro observatory to detect known, as well as new, TeV sources. The PMTs and much of the data acquisition system of Milagro will be reused for HAWC, resulting in a cost effective detector (\sim \$5M) that can be built quickly in 2- 3 years. The improvements of HAWC will give ~ 15 times the sensitivity of Milagro. HAWC will survey 2π sr of the sky every day with a sensitivity of the Crab flux at a median energy of 1 TeV. After one year of operation, half of the sky will be surveyed to 50 mCrab. This sensitivity will likely result in the discovery of new and flaring sources as well as allow the identification of which GLAST sources extend to higher energies.

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