Abstract Submitted
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The HAWC Observatory ANDREW SMITH, University of Maryland, MILAGRO COLLABORATION — The High Altitude Water Cherenkov (HAWC) observatory is a proposed, large field of view ($\sim$2 sr), high duty cycle (>95%) TeV gamma-ray detector to be constructed using a dense array of water tanks covering an area greater than 25,000m^2. HAWC will be located at an elevation of 4100m near the Sierra Negra mountain in Mexico. The instrument will use 900 photomultiplier tubes 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 that can be built quickly (2-3 years). The improvements of HAWC will give 15 times the sensitivity of Milagro. I will present the results of recent detector optimization and engineering studies for HAWC as well as present a detailed analysis of the flux and energy sensitivity of the proposed instrument.

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