

Abstract Submitted
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The Measurement of the Flux and Spectrum of the Crab by HAWC ANDREW SMITH, University of Maryland, College Park, HAWC COLLABORATION COLLABORATION — The HAWC observatory was completed and began full operation in early 2015. Located at an elevation of 4100m, HAWC has an energy threshold for gamma-ray detection well below 1 TeV and a sensitivity to TeV-scale gamma-ray sources an order of magnitude better than previous air-shower arrays. The detector operates 24 hours/day and observes the overhead sky (~ 2 sr), making it an ideal survey instrument. We describe the details of the high significance detection (>100 sigma) of the Crab PWN and explain in detail the measurement the VHE spectrum of this important gamma-ray source. At the high end of the VHE range, above 10 TeV, HAWCs sensitivity is better than that of IACTs due mainly to its large effective area and unprecedented exposure. Measuring the high energy behavior of this source is critical to the understanding of the acceleration dynamics and the environment in vicinity of the pulsar. Furthermore, as the Crab is bright, point-like and steady, as detected by VHE gamma-ray instruments, it serves as the best source for verification of detector performance and measurement of systematic errors. This presentation will also describe in detail the analysis methodology utilized by a number of presentations from the HAWC collaboration.

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