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First Light with the HAWC Gamma-Ray Observatory

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The High-Altitude Water Cherenkov Gamma-Ray Observatory (HAWC) is currently under construction 4,100 meters above sea level on the slope of Pico de Orizaba, Mexico. HAWC is a large field-of-view instrument capable of continuously monitoring the gamma-ray sky between roughly 50 GeV and 100 TeV. The detector will be used to record both steady and transient gamma-ray sources and to provide an unbiased survey of the northern sky. Upon completion, HAWC will comprise 300 large light-tight water tanks covering an area of 20,000 square meters. Each tank will be instrumented with four photomultipliers to detect particles from extensive air showers produced by gamma rays and cosmic rays. Since September 2012, the first 30 tanks have been operating in data acquisition mode. Event statistics and sensitivity are already sufficient to perform studies of cosmic rays and flaring gamma-ray sources. In this talk, we report results from the first months of detector operation, including the detection of large- and small-scale anisotropy of cosmic rays.

Primary author: Prof. WESTERHOFF, Stefan (University of Wisconsin-Madison)

Presenter: WESTERHOFF, Stefan (University of Wisconsin-Madison)

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