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Measuring TeV Cosmic Rays at the HAWC Observatory

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The High-Altitude Water Cherenkov Observatory, or HAWC, is an air shower array in central Mexico designed to observe cosmic rays and gamma rays between 100 GeV and 100 TeV. HAWC will be completed in early 2015, but has been collecting data in a partial configuration since mid-2013. With only part of the final array in data acquisition, HAWC has already accumulated a data set of nearly 100 billion air showers. These events are used to calibrate the detector using the shadow of the Moon, and to measure the anisotropy in the arrival directions of the cosmic rays above 1 TeV. Using data recorded between June 2013 and July 2014, we have observed a significant 10^{-4} anisotropy consisting of three statistically significant "hotspots" in the cosmic ray flux. We will discuss these first results from HAWC and compare them to previous measurements of the northern and southern sky.

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