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The Search for Dark Matter with The High Altitude Water Cherenkov (HAWC) Observatory

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The High Altitude Water Cherenkov (HAWC) observatory is a wide field-of-view detector sensitive to 100 GeV - 100 TeV gamma rays and cosmic rays. Located at an elevation of 4100 m on the Sierra Negra mountain in Mexico, HAWC observes extensive air showers from gamma and cosmic rays with an array of water tanks which produce Cherenkov light in the presence of air showers. With a field-of-view capable of observing 2/3 of the sky each day, and a sensitivity of ~1 Crab/day, HAWC will be able to map out the sky in gamma and cosmic rays in detail. In this talk, I will discuss the capabilities of HAWC to map out the directions and spectra of TeV cosmic rays as well as its sensitivity to multiple extended sources of dark matter annihilation. I will also show some current cosmic ray and dark matter results from the portion of the detector already built, HAWC-100.

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