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The Search for Annihilating Dark Matter with The High Altitude Water Cherenkov (HAWC) Observatory J. PATRICK HARDING, Los Alamos National Laboratory, HIGH ALTITUDE WATER CHERENKOV (HAWC) COLLABORATION — 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 wide field-of-view observing 2/3 of the sky each day and a sensitivity of 1 Crab/day, HAWC has the ability to probe many sources for the signals of TeV-mass dark matter. I will show some results from the portion of the HAWC detector already built, HAWC-111, as well as the predicted sensitivity to dark matter for the full detector.

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