

Abstract Submitted
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Dark Matter Annihilation and Decay limits with HAWC TOLGA
YAPICI, Michigan State Univ, HAWC COLLABORATION — The High Altitude Water Cherenkov (HAWC) gamma-ray observatory is a wide field-of-view observatory sensitive to 100 GeV - 100 TeV gamma-rays and cosmic-rays in the state of Puebla, Mexico at an altitude of 4100m. The HAWC observatory performed an indirect search for dark matter via GeV-TeV photons resulting from dark matter annihilation and decay. We considered the HAWC sensitivity to a set of sources, including 15 individual dwarf spheroidal galaxies (dSphs), the M31 galaxy and the Virgo cluster, as well as a combined limit using 15 dSphs. HAWC has not seen statistically significant excess from these sources. Being a survey experiment, HAWC will include any newly found dark matter rich sources, such as recently discovered TriangulumII dwarf galaxy. We explored dark matter masses above 1 TeV, including masses higher than 70 TeV that are currently unconstrained. We will present the annihilation cross-section and decay lifetime limits.

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