

Abstract Submitted
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Dark Matter Searches in Dwarf Spheroidal Galaxies and the Virgo Cluster with HAWC TOLGA YAPICI, Univ of Rochester, HAWC COLLABORATION — The High Altitude Water Cherenkov (HAWC) gamma-ray observatory is a wide field of view observatory sensitive to 500 GeV - 100 TeV gamma rays and cosmic rays. It can perform diverse indirect searches for dark matter signature in dwarf spheroidal galaxies, which are expected to have few astrophysical sources of gamma rays but high dark matter content, and in the spatially extended galaxy clusters, which are rich in baryonic matter and dark matter. We present annihilation cross section and decay lifetime limits for 15 dwarf spheroidal galaxies within the field-of-view, as well as their combined limit. We also present the HAWC flux upper limits of 15 dwarf galaxies in energy bins. We performed another search for dark matter signature for the Virgo Cluster, the nearest galaxy cluster. We investigated for possible dark matter morphologies and we present limits on annihilation cross section and decay lifetime with the Virgo Cluster.

Tolga Yapici
Univ of Rochester

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