

Indirect Dark Matter Searches with VERITAS

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Monday, 31 March 2008
Last Updated Monday, 14 April 2008

Bulletin of the AAS (BAAS), volume 40, number 1, 2008 (18.06)

If dark matter (DM) is composed of massive, weakly-interacting particles such as the neutralino predicted by supersymmetry, pair annihilation to gamma rays or secondary particles ultimately producing a continuum spectrum of gamma rays may take place in gravitationally clustered DM. Due to their large mass-to-light ratios and the absence of conventional gamma-ray sources in their vicinity, dwarf spheroidal galaxies of the Local Group are obvious targets to search for such annihilation. We report here on gamma-ray observations taken with the Very Energetic Radiation Imaging Telescope Array System (VERITAS) during the 2007/8 season of the dwarf galaxies Ursa Minor, Draco, and Willman I and the local group galaxy M33. We discuss the implications of these measurements for models of DM clustering and DM particle properties.