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Search for Dark Matter Annihilation from the Milky Way Dwarf Spheroidal Galaxies with Fermi-LAT

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The Milky Way (MW) dwarf spheroidal satellite galaxies (dSphs) are particularly intriguing targets to search for gamma rays from dark matter (DM) annihilation or decay. They are nearby, DM-dominated, and lack significant emission from standard astrophysical processes. Previous studies using the Fermi Large Area Telescope (LAT) of DM-induced emission from dSphs provide some of the most stringent constraints on DM properties, such as the annihilation cross section and mass. However, there are now several additional years of gamma-ray data since the most recent dwarf DM analysis from the Fermi-LAT Collaboration, as well as an improved census of Milky Way satellites thanks to data from large-scale optical surveys, offering an excellent opportunity for an updated dwarf DM analysis. I will discuss in this presentation the updated DM analysis of the Milky Way dSphs and our preliminary results.

Primary author: MCDANIEL, Alex (Clemson University)

Presenter: MCDANIEL, Alex (Clemson University)

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