

Model-independent constraints on dark matter annihilation in dwarf spheroidal galaxies

Monday, 20 May 2019 15:00 (20 minutes)

Dwarf spheroidal galaxies (dSphs) are exceptionally clean targets for searches for gamma rays from dark matter annihilation. Here, I will discuss a general, model-independent formalism for determining bounds on the production of photons from dark matter annihilation in dSphs. This formalism is applicable to any set of assumptions about dark matter particle physics or astrophysics. As an illustration, I'll present an analysis of gamma-ray data from the Fermi Large Area Telescope, which can be used to derive constraints on a variety of nonstandard dark matter models, several of which have not previously been studied in the context of dwarf galaxy searches. Finally, I'll provide an update on the release of a public code for calculating limits on dark matter annihilation in dSphs.

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Session Classification: Dark Matter, Astroparticle Physics

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