

Spherical Cows of Dark Matter Indirect Detection

Monday, September 12, 2016 6:10 PM (20 minutes)

The morphology of dark matter annihilation/decay signals offers a handle for discrimination of dark matter against astrophysical backgrounds. Recent advances in N-body simulations allow us to map out the expected distribution of morphological parameters, rather than focusing on a small sample of halos which are assumed to be representative. In this talk, I will use data from the Illustris simulation to present an analysis of the expected morphology of dark matter annihilation and decay signals, either originating from the Galactic Center or from halos other than our own. I will discuss how these expectations, and those for simulated gas and stars, compare to observations of astrophysical background emission and hints of potential signals.

Summary

Primary authors: NECIB, Lina (MIT); Prof. SLATYER, Tracy (MIT)

Presenter: NECIB, Lina (MIT)

Session Classification: Dark matter (indirect detection)

Track Classification: Dark matter (indirect detection)