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TALK: Dark Matter Annihilation Signals from Sagittarius Analogues

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Dwarf spheroidal galaxies such as Sagittarius are dark matter dominated, and therefore unique candidates for indirect dark matter searches. In order to accurately predict the dark matter annihilation signal from dwarf spheroidal galaxies, it is crucial to correctly model the phase space distribution of dark matter in them. Hydrodynamical simulations of galaxy formation provide important information on the dark matter distribution in dwarf spheroidal analogues. I will present the dark matter density profile and velocity distribution of the Sagittarius dwarf spheroidal galaxy extracted from state-of-the-art hydrodynamical simulations. In addition to the annihilation signals from dark matter particles bound to Sagittarius, we consider for the first time the annihilation of dark matter particles bound to the Milky Way that overlap spatially with Sagittarius. I will discuss the implications of this dark matter population for velocity-dependent dark matter annihilation models.

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