

Detecting Dark Matter Annihilation to Neutrinos

Tuesday 6 December 2022 14:00 (20 minutes)

Considering dark matter annihilation to neutrinos in the Galactic halo, we discuss the prospects for the indirect detection of dark matter using the Hyper-Kamiokande neutrino experiment. We also quantify the extent to which the annihilation of low-mass dark matter to neutrinos could confuse the interpretation of the diffuse supernova neutrino background signal. Finally, we consider a neutrino signal produced via the annihilation of dark matter captured in the Sun and present projected limits on the dark matter spin-dependent scattering cross-section. [Based on arXiv:2005.01950 (JCAP 2020); arXiv:2107.04216 (JCAP 2021); arXiv:2205.14123.]

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