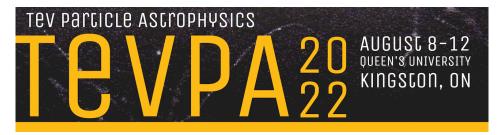
TeVPA 2022



Contribution ID: 26

Type: Parallel Talk

Dark Matter decay to neutrinos

Thursday 11 August 2022 14:20 (20 minutes)

Dark matter (DM) particles are predicted to decay into Standard Model particles which would produce signals of neutrinos, gamma-rays, and other secondary particles. Neutrinos provide an avenue to probe astrophysical sources of DM particles. We review the decay of dark matter into neutrinos over a range of dark matter masses from MeV/c2 to ZeV/c2. We examine the expected contributions to the neutrino flux at current and upcoming neutrino and gamma-ray experiments, such as Hyper-Kamiokande, DUNE, CTA, TAMBO, and IceCube Gen-2. We consider galactic and extragalactic signals of decay processes into neutrino pairs, yielding constraints on the dark matter decay lifetime that ranges from tau ~ 1.2×10²1 s at 10 MeV/c2 to 1.5x10²9 s at 1 PeV/c2.

Collaboration name

Author:DELGADO LOPEZ, Diyaselis (Harvard University (US))Presenter:DELGADO LOPEZ, Diyaselis (Harvard University (US))Session Classification:Dark Matter

Track Classification: Dark Matter