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Dark Matter-enhanced Probe of Relic Neutrino Clustering

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The existence of relic neutrino background is a strong prediction of the Big Bang cosmology. But because of their extremely small kinetic energy today, the direct detection of relic neutrinos remains elusive. On the other hand, we know very little about the nature of dark matter. In this work, we are putting constraint on the overdensity of the cosmic neutrino background by using them as the scatterers to the neutrinos coming from decaying heavy dark matter (with mass in the range of 10^9 to 10^{15} GeV). For a particular choice of constraint on dark matter lifetime, these attenuated neutrino fluxes are potentially observable at the next-generation ultra-high energy neutrino telescopes (such as IceCube-Gen2).

Mini Symposia (Invited Talks Only)

Plenary (Invited talks only)

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