The 24th International Workshop on Neutrinos From Accelerators (NuFact 2023)

Contribution ID: 47

Type: Oral

Recent Results on Indirect Dark Matter Searches with IceCube

Friday 25 August 2023 16:30 (24 minutes)

Although the existence of dark matter has been well established by numerous observations, its nature remains unknown. Dark Matter could be detected indirectly through the observation of neutrinos produced in self-annihilations or decays of dark matter. Objects with large dark matter accumulations such as galaxy clusters or the Galactic dark matter halo are primary targets. Searches for such signals conducted with the IceCube Neutrino Telescope have resulted in some of the most stringent constraints on the lifetime of dark matter in particular in the TeV - PeV mass range. We present searches for neutrinos from dark matter decay with IceCube, that are conducted in a model independent way assuming a 100% branching ratio into a pair of Standard Model particles. The decay channels considered for these works include $\nu \bar{\nu}$, $\tau^+ \tau^-$, W^+W^- , $b\bar{b}$. Current constraints and sensitivities are reviewed.

Primary author: JEONG, Minjin (Sungkyunkwan University)
Co-author: ROTT, Carsten (University of Utah)
Presenter: JEONG, Minjin (Sungkyunkwan University)
Session Classification: parallel (room#302)

Track Classification: WG5: Neutrinos Beyond PMNS