

Dark Matter annihilation to neutrinos: New limits and future prospects

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Since the confirmation of neutrino oscillations in the late 90s, it became apparent that the road to new physics is paved with neutrinos. On top of that, a plethora of evidence suggests the existence of a dark matter component that cannot be described without an extension to the Standard Model (SM). As a result, many proposed solutions that reconcile the SM with dark matter incorporate a new particle or introduce a dark sector that is connected to the SM via neutrinos. In this work, we provide new model-independent limits on dark matter annihilation into neutrinos based on measurements of neutrinos in a wide energy range. Thus, in this talk, I present the most up-to-date and comprehensive results on dark matter annihilation into neutrinos.

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