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Multi-messenger hunts for heavy WIMPs

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The gold-standard of astronomical WIMP hunting has historically been the ability to detect dark matter annihilation signals at thermal relic cross-section required to produce the observed cosmological dark matter abundance. A model's status becomes dubious if expected emissions are not observed at this point, as a weaker cross-section implies this candidate would not supply the bulk of cosmological dark matter. A persistent challenge in this field has been in reaching this level of sensitivity when probing models that feature a WIMP mass above 1 TeV. In this talk we discuss recent advances in neutrino astronomy that provide new tools to explore the largely uncharted realm of heavy WIMPs.

Apply to be considered for a student & award (Yes / No)?

No

Level for award (Hons, MSc, PhD, N/A)?

N/A

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