

Phenomenology 2021 Symposium



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Sterile Neutrino Dark Matter via Secret Neutrino Interactions

Wednesday 26 May 2021 17:30 (15 minutes)

I will present the anatomy of production mechanisms for sterile neutrino dark matter in the presence of new interactions among either active or sterile neutrinos. These new interactions can be mediated by a scalar or a vector, and allow sterile neutrinos to make up all the dark matter while safely evading all current experimental bounds. We identify three regimes of the mediator's mass and coupling where it makes a distinct impact on dark matter production through the dispersion relations and/or scattering rates. These models serve as a well-motivated target for the upcoming experimental searches.

Summary

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