

Turn off the lights to see hidden sector dark matter

Thursday 27 March 2025 14:20 (15 minutes)

Dual-phase liquid xenon TPCs have the potential to discover sub-GeV dark matter. In this low-energy regime, the limiting background is due to the instrument itself in the form of delayed electron and photon emission. In this talk, we present new data explaining the mechanism for delayed emission. Furthermore, we describe steps towards a prototype xenon TPC with significantly reduced delayed emission rates. We conclude with an outlook on plans for a competitive xenon TPC for low-mass dark matter searches.

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Session Classification: SESSION 17: Direct detection Recent Developments II & New Concepts