

Abstract Submitted
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Future dark matter searches with fixed target proton experiments

ROBERT COOPER, New Mexico State University, REX TAYLOE, Indiana Univ - Bloomington — Recent theoretical work has highlighted the motivations for sub-GeV dark matter candidates that interact with ordinary matter through new light mediator particles. These scenarios constitute a cosmologically and phenomenologically viable possibility to account for the dark matter of the universe. Such sub-GeV (or light) dark matter particles are difficult to probe using traditional methods of dark matter detection, but can be copiously produced and then detected with proton-beam neutrino experiments at Fermilab, ORNL-SNS, and elsewhere. This is a new experimental approach to the search for dark matter and complements other approaches such as underground direct detection experiments. An overview of the experimental approaches along with specific examples of dark matter sensitivities will be presented.

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