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Sub-GeV Dark Matter Search with MiniBooNE REX TAYLOE, Indiana Univ - Bloomington, MINIBOONE-DARKMATTER COLLABORATION — Cosmological observations indicate that our universe contains dark matter (DM), however, we have yet to conclusively detect DM directly or measure its microscopic properties. Direct detection experiments search for a nuclear recoil interaction produced by a DM relic particle and have a sensitivity to DM particle mass down to order 1 GeV. To explore below this limit, searches for boosted dark matter in particle beams may be employed. The MiniBooNE experiment, which ran for a decade at Fermilab to measure ν, $\bar{\nu}$ oscillations and interactions, conducted a dedicated run in 2014 with the Fermilab Booster 8 GeV proton beam incident on a steel beam stop. Using this beam configuration and the existing and well-understood MiniBooNE detector, the MiniBooNE-darkmatter collaboration searched for low-mass DM in nucleon recoil events. Results from this search as well as future prospects will be presented.

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