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Search for sub-GeV Dark Matter with MiniBooNE

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Cosmological observations indicate that our universe contains dark matter, yet we have no measurements of its microscopic properties. Direct detection experiments search for a nuclear recoil interaction and have a low-mass sensitivity edge of order 1 GeV. A path to detect dark matter with mass below 1 GeV is to search for boosted dark matter being produced at accelerators. Neutrino detectors are already sensitive to dark matter interactions because of the similarity of the dark matter and neutrino signatures in the detector. The MiniBooNE experiment, located at Fermilab on the Booster Neutrino Beamline, has searched for dark matter produced from protons interacting in the beam-dump using various interaction channels. This talk will go over the analysis and results of this search.