

Title: Searching for WIMPs with a Neutrino Beam Experiment

WIMPs at MiniBooNE, really? No, not the people kind, but the Weakly Interacting Massive Particle type. There are two experimental techniques to search for WIMPs, either build a massive sensitive detector deep underground and wait for one to interact, or produce them with an energetic particle beam slamming into a fixed target. It turns out that MiniBooNE is ideal for WIMP searches using the second approach. It has the worlds largest protons on target data set, a short baseline, and a massive sensitive detector. In this talk I will discuss how MiniBooNE can search for low mass WIMPs (10 - 200 MeV range) with its current data set, and a recent proposal to enhance the sensitivity by running in a special beam dump mode that significantly reduces neutrinos, which are a background to WIMP searches. It turns out that MinBooNE can cover an interesting and untested region of WIMP cross section and mass parameter space with a short one year run. A future proposal using higher energy protons from the FNAL Main Injector will also be discussed.