

Abstract Submitted
for the APR10 Meeting of
The American Physical Society

ArgoNeuT Overview and Future Goals KINGA PARTYKA, Yale University — The Argon Neutrino Teststand, ArgoNeuT, is a small scale Liquid Argon Time Projection Chamber (LArTPC). ArgoNeuT is located 350 feet underground and it sits upstream of the MINOS detector on the NuMI beam at the Fermi National Accelerator Laboratory in Batavia, Illinois. It is an R&D project paving the way for construction of larger detectors. ArgoNeuT provides bubble chamber quality images and an excellent background rejection. To date, there are very few measurements of neutral current (NC) π^0 production in the 1-2 GeV range,¹ which is an important region for neutrino oscillation experiments. ArgoNeuT takes measurements in 0.1 to 10 GeV range and will help, among other studies, in analysis of coherent versus resonant pion production. ArgoNeuT will give us a sample of neutrino events in a LArTPC for the first time in the U.S. and the first time ever in a low-energy beam.

¹A. A. Aguilar-Arevalo et al., Phys. Lett. B **664**, 41 (2008)

Kinga Partyka
Yale University

Date submitted: 28 Dec 2009

Electronic form version 1.4