



Семинар

**Вторник, 5 декабря,
11-00
Конференц-зал ЛЯП**

Christopher Kullenberg

"First Measurements of Neutrino-Induced π^0 Sections in the NOvA Near Detector"

The NOvA detector is a long baseline massive neutrino detector primarily designed to measure ν_μ disappearance and ν_e appearance within the Fermilab beamline for the sake of measuring θ_{13} and δ_{cp} . However, NOvA's low-Z, fine-grained Near Detector is well suited to measuring electromagnetic showers, has good angular resolution, and provides good statistics due to its proximity to the beam source. This makes it a very good candidate for the detection of neutral pions, which immediately decay into two photons. It is very important that we understand pion production in neutrino interactions, as they pose a background for ν_e appearance measurements, and studying processes involving pions allows us to test our descriptive theories, PCAC in coherent production, and final state interactions, for example. The talk is based on the W&C seminar presented by Dr. Duyang and Dr. Pershey at FNAL on Dec. 1. Hongyue Duyang has produced a measurement of the coherent production of π^0 within the Near Detector, where the neutrino interacts coherently with the entire nucleus. And Dan Pershey has performed a measurement of π^0 production within charged current interactions in the detector.