

LArIAT - Liquid Argon in a Testbeam

Monday 25 August 2014 15:20 (25 minutes)

Liquid Argon Time Projection Chambers offer very good 3D and calorimetric resolution and allow relatively easy construction of large mass detectors, making them a prime candidate for future precision neutrino measurements. Surprisingly, there has been relatively little effort in calibrating the response of these detectors. The LArIAT (Liquid Argon In A Testbeam) experiment aims to fill that gap, and to measure interaction cross sections on LAr. Running in the Fermilab testbeam facility on a beam of charged particles of measured momentum, it will seek to characterize and refine the LArTPC's particle identification capabilities, including the electron-gamma separation, electron recombination parameters, and non-magnetic muon sign determination. The status of the construction of the first phase of the experiment, which will reuse the ArgoNeuT TPC, will be presented, as well as plans for the second phase which will examine containment of EM and hadronic showers.

WG3: Accelerator Physics (Yes/No)

No

WG2: Neutrino Scattering Physics (Yes/No)

Yes

WG4: Muon Physics (Yes/No)

No

WG1: Neutrino Oscillation Physics (Yes/No)

No

Type of presentation

Oral presentation

Author: Dr ST. JOHN, Jason (University of Cincinnati)

Presenter: Dr ST. JOHN, Jason (University of Cincinnati)

Session Classification: WG2: Neutrino Scattering Physics