



Contribution ID: 223

Type: **Poster**

The CAPTAIN LAr TPC: Stopped Pion Opportunities

With the increased interest in liquid argon time projection chambers (LAr TPC), the CAPTAIN project was conceived as a study of the technological and systematic uncertainties associated with liquid argon detectors in event reconstruction. The Cryogenic Apparatus for Precision Tests of Argon Interactions with Neutrino (CAPTAIN) program consists of three-staged detectors- a primary 5-ton LArTPC, a prototype LArTPC for configuration testing and a liquid argon scintillation-testing chamber. While the smaller detectors will test various system designs, the primary CAPTAIN LArTPC will measure background neutron and muon yields and examine neutrino interactions with liquid argon. This poster compares three possible sites for the measurement of low-energy neutrinos with the CAPTAIN detector- namely the Spallation Neutron Source (SNS) at Oakridge National Laboratory (ORNL), the Booster Neutrino Beam (BNB) at Fermi National Accelerator Laboratory (FNAL) and the Lujan center (Target-1) at Los Alamos National Laboratory (LANL). Preliminary studies indicate that while SNS clearly has a higher neutrino flux, both BNB and Lujan have better duty cycles.

Primary author: Dr MAUGER, Christopher (LANL)

Presenter: Dr MAUGER, Christopher (LANL)

Track Classification: Neutrino Interactions