



Poster session 2 – Tuesday 5 July

P2.035 An overview of the CAPTAIN experimental program

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CAPTAIN is a three stage experiment designed to measure crosssection for interactions on argon that are important for the long-baseline neutrino physics and astrophysics program explored with deep underground detectors. CAPTAIN stands for the Cryogenic Apparatus for Precision Tests of Argon Interactions with Neutrino. The detector is a 5 ton liquid argon TPC placed in a portable and evacuable cryostat accompanied by a photon detection system for independent triggering. In the first stage, Mini-CAPTAIN (1-ton LAr prototype) was placed in the high energy neutron beam in February 2016, at the Los Alamos Neutron Science Center and is planned to take more data in September 2016. In the second phase, CAPTAIN will collect data jointly with the MINERVA experiment in the NuMI beamline at Fermilab which will provide about 1 million neutrino events in 1-10 GeV range to measure cross-sections of argon-neutrino interaction. This is the energy range of interest for the long-baseline neutrino program. In the third stage, CAPTAIN will be placed in a lower energy neutrino beam at the Booster Neutrino Beam to measure cross-sections at lower energy that are of interest for Supernova neutrino physics.