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## Measurement of The Neutron Cross Section on Argon by the Mini-CAPTAIN Detector

*Monday, 29 July 2019 16:00 (15 minutes)*

The CAPTAIN (Cryogenic Apparatus for Precision tests of Argon Interactions with Neutrinos) experiment's goal is to measure the neutron cross section and define the neutron signature in liquid argon in the 50 MeV to 800 MeV energy range. This measurement is of great interest for neutrino physics since neutrons introduce a considerable uncertainty in neutrino energy reconstruction. They take away a portion of energy with almost no possibility to reconstruct it due to lack of charge. In particular, data provided by the CAPTAIN collaboration will serve the needs of the planned experiment DUNE (Deep Underground Neutrino Experiment), which will be a neutrino oscillation experiment using a Liquid Argon detector. The Mini-CAPTAIN detector, a 400-kg instrumented mass LArTPC, is used to measure the cross section of neutron interactions on an argon target. The CAPTAIN collaboration successfully collected neutron data using the Mini-CAPTAIN detector in July 2017 at the Los Alamos Neutron Science Center (LANSCE) at Los Alamos National Laboratory (LANL). In this talk I will report results of the analysis of data from the July 2017 neutron run.

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