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**The Mini-CAPTAIN Neutron Run and Future CAPTAIN Program** ROBERT COOPER, New Mexico State Univ, CAPTAIN COLLABORATION — The Cryogenic Apparatus for Precision Tests of Argon Interaction with Neutrinos (CAPTAIN) is an experimental program to measure critical neutrino interaction cross sections in argon for the DUNE long-baseline program. These cross sections are important for understanding and improving the energy resolution of measurements for neutrino oscillations and supernova detection in argon. The full CAPTAIN detector is a 5-ton fiducial volume liquid argon (LAr) time-projection chamber (TPC) with an independently triggered photon detection system (PDS) for fast-timing capabilities on accelerators. To test the full CAPTAIN concept, the 1-ton fiducial volume mini-CAPTAIN detector has been deployed. Mini-CAPTAIN is another LAr TPC with PDS. It was recently deployed to the Weapons Neutron Research (WNR) facility at Los Alamos National Laboratory to measure high-energy neutron interactions in argon. The WNR is a pulsed accelerator capable of delivering neutrons up to 800 MeV in energy. In this talk, I will report on the analysis of the first time-of-flight tagged, high-energy neutron response in liquid argon from our February 2016 run. I will also highlight a second neutron run at the WNR scheduled for Summer 2017 and discuss the implications these data have on the future CAPTAIN program.

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