

Abstract Submitted
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The CAPTAIN-MINERvA Experiment JIEUN YOO, University of Houston, CAPTAIN-MINERVA COLLABORATION — The CAPTAIN-MINERvA experiment aims to measure neutrino-argon interactions in the few GeV energy range, which corresponds to the first oscillation maximum for DUNE. It uses the CAPTAIN LArTPC as an active target in conjunction with MINERvA to measure the neutrino interactions and will provide the only high-statistics measurement of the neutrino-argon cross section above 2 GeV before DUNE. CAPTAIN is a liquid argon TPC which is currently being built at LANL. It will be moved to Fermilab and be used in conjunction with MINERvA. Using MINERvA as the tracking detector will allow us to measure the muon energy by dE/dx and thus more completely measure the incoming neutrino energy. And, by measuring the ratio of cross sections in argon to hydrocarbon in the scintillator, we will be able to make stringent tests of nuclear effect models. Thus, through this unique combination of detectors, CAPTAIN-MINERvA will be able to study neutrino-argon interactions and serve as an important source of input for DUNE.

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