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Measurement of Pion-Argon Absorption and Charge Exchange using ProtoDUNE-SP JACOB CALCUTT, Michigan State University, DUNE COLLABORATION — ProtoDUNE-SP is the largest Liquid Argon Time Projection Chamber (LArTPC) to have operated, and serves as both a source of data for charged-particle interactions and a prototype for the single phase far detector module of the future Deep Underground Neutrino Experiment (DUNE). The detector was commissioned in Fall 2018, with test beam data taken immediately after that before the CERN Long Shutdown 2. The test beam consisted of hadrons (protons, positive pions and kaons) and muons in the momentum range of 1 - 7 GeV/c and electrons in the range of .3 - 7 GeV/c. The pion data from the test beam is of particular interest for DUNE in the context of both its neutrino interaction model and detector model. There is currently very limited data of pion-Ar interactions. As such, the ProtoDUNE-SP pion data will provide necessary constraints to DUNE's experimental simulation. This talk will show progress on measurements of pion-argon absorption and charge exchange at ProtoDUNE-SP.

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