

## Neutrino-induced proton knockout in MicroBooNE

*Wednesday 8 September 2021 14:40 (20 minutes)*

The MicroBooNE detector is the world's longest-running liquid argon time projection chamber (LArTPC), currently installed in the Booster Neutrino Beam at Fermilab. One of the primary physics goals of MicroBooNE is to perform detailed studies of neutrino-argon scattering cross sections, which are critical for the success of future neutrino oscillation experiments. At neutrino energies relevant for the Short-Baseline Neutrino Program, the most plentiful event topology involves mesonless final states containing one or more protons. A low reconstruction threshold enabled by LArTPC technology has allowed MicroBooNE to pursue various analyses studying neutrino-induced proton production at accelerator energies. This talk presents several recent results from that effort, including a neutral-current elastic differential cross section as a function of  $Q^2$ , as well as charged-current measurements examining exclusive final states containing protons.

### Working group

WG2

**Primary author:** SWORD-FEHLBERG, Samantha (NMSU)

**Presenter:** SWORD-FEHLBERG, Samantha (NMSU)

**Session Classification:** WG 2