

Measurements of a Total Inelastic K^+ -Argon Cross Section at ProtoDUNE-SP

Friday 19 July 2024 20:40 (20 minutes)

ProtoDUNE Single-Phase was DUNE's first full-scale engineering prototype and operated from 2018-2020. It took test beam data of charged hadrons in 2018, including data of positively charged kaons at high GeV-scale momenta. A total inelastic cross section was measured using these test beam kaons with the thin-slice method, which artificially divides the detector into slices where the particle either interacts in or passes through. The cross section data can help inform modeling uncertainties for final state and secondary interactions used in neutrino and nucleon decay analyses. The following poster will show the event selection, analysis methods, and final extracted cross section.

Alternate track

1. Detectors for Future Facilities, R&D, Novel Techniques

I read the instructions above

Yes

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Session Classification: Poster Session 2

Track Classification: 02. Neutrino Physics