Abstract Submitted
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Exploring Nucleon Axial Structure at MicroBooNE[1] STEPHEN PATE, New Mexico State Univ, MICROBOONE COLLABORATION — MicroBooNE is a new 170-ton liquid-argon time projection chamber located on the Booster neutrino beam line at Fermilab, being commissioned in 2015. Using a beam of neutrinos with a mean energy of approximately 1 GeV, MicroBooNE will explore neutrino oscillations, as well as measure a variety of neutrino-nucleon and neutrino-nucleus interaction cross sections in argon. One important goal is the measurement of the neutral-current elastic (NCE) νp scattering cross section, $\nu p \to \nu p$. For $Q^2 < 1$ GeV^2, the NCE cross section is dominated by the proton elastic axial form factor, $G_A^Z(Q^2)$. The strangeness contribution to the axial form factor, $G_A^s(Q^2)$, is unknown below $Q^2 = 0.45$ GeV^2, and is of great interest since the strangeness contribution to the proton spin can be determined from it: $\Delta S = G_A^s(Q^2 = 0)$. This talk will discuss the capability of MicroBooNE to measure $G_A^s(Q^2)$, and present the current status of the experiment.

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