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Determination of the axial radius in quasielastic neutrino-carbon scattering through z-expansion and the correlated fermi gas nuclear model[1] JAMESON TOCKSTEIN, Wayne State University — When studying neutrino oscillations an understanding of charged current quasielastic (CCQE) neutrino-nucleon scattering is imperative. This interaction depends on a nuclear model as well as knowledge of form factors. CCQE data from neutrino scattering off of carbon from the MiniBooNE experiment [1] is analyzed. Like [2] we use the z-expansion for the axial form factor, but instead of an RFG nuclear model [3], we use a Correlated Fermi Gas nuclear model (CFG) [4] to extract the axial radius. References: [1] A. A. Aguilar-Arevalo et al. [MiniBooNE Collaboration], PR D 81, 092005 (2010). [2] B. Bhattacharya, R. J. Hill, G. Paz. PR D 84, 073006 (2011). [3] R. A. Smith and E. J. Moniz, Nucl. Phys. B 43, 605 (1972). [4] O. Hen, B. A. Li, W. J. Guo, L. B. Weinstein and E. Piasetzky, PR C 91, 025803 (2015).

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