

Abstract Submitted  
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**Implementing the correlated fermi gas nuclear model for quasielastic neutrino-nucleus scattering**<sup>1</sup> JAMESON TOCKSTEIN, Wayne State University — When studying neutrino oscillations an understanding of charged current quasielastic (CCQE) neutrino-nucleus scattering is imperative. This interaction depends on a nuclear model as well as knowledge of form factors. Neutrino experiments, such as MiniBooNE [1], often use the Relativistic Fermi Gas (RFG) nuclear model [2]. Recently, the Correlated Fermi Gas (CFG) nuclear model was suggested in [3], based on inclusive and exclusive scattering experiments at JLab. We implement the CFG model for CCQE scattering. In particular, we provide analytic expressions for this implementation that can be used to analyze current and future neutrino CCQE data. References: [1] A. A. Aguilar-Arevalo et al. [MiniBooNE Collaboration], PR D 81, 092005 (2010). [2] R. A. Smith and E. J. Moniz, Nucl. Phys. B 43, 605 (1972). [3] O. Hen, B. A. Li, W. J. Guo, L. B. Weinstein and E. Piasetzky, PR C 91, 025803 (2015).

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