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**Electron Scattering Measurements applied to Neutrino Interactions on Nuclei**[1]

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The extraction of neutrino mass differences and flavor mixing parameters from oscillation experiments requires models of neutrino-nucleus scattering as input. With the reduction of other systematics, the uncertainties stemming from such models are expected to be one of the larger contributions to the systematic uncertainties for next generation oscillation experiments. The neutrino energy range sensitive to oscillations in long baseline experiments is typically the few GeV range, where the interactions with the nucleus and the subsequent production and propagation of hadrons within the nucleus is in the regime studied by nuclear physics experiments at facilities such as Jefferson Lab. While processes such as resonance production have been well studied in electron scattering, there is currently precious little corresponding data from neutrino scattering. Results from electron scattering experiments, therefore, have an important role to play in both building and constraining models for neutrino scattering. On the other hand, the study of nucleon structure via weak probes is very complementary to the program at Jefferson Lab utilizing electromagnetic probes. Neutrino scattering experiments such at MINERvA are expected to provide new experimental information on axial elastic and resonance transition form factors and on medium modifications via the axial coupling. This talk will focus on the application of electron scattering measurements to neutrino interactions on nuclei, but will also touch on where neutrino scattering measurements can add to our understanding of the nucleus.

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