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## Charged-current neutrino scattering off I-127 and Cs-133 and the effect of quenching and two-body currents.

The stable iodine and caesium isotopes are the primary constituents of several detectors including the CsI[Na] neutrino detector operational from 2015 to 2019 at the SNS. Theoretically computed cross sections for these nuclei are therefore of considerable interest. The goal of the research outlined in this abstract was to obtain accurate theoretical scattering cross sections for stopped pion neutrino scattering off these nuclei using both the impulse approximation and with the two-body current included. The results were compared to recently measured experimental cross section of the cc-scattering off iodine. The contributions to the quenching of the weak axial-vector coupling constant from the two-body currents and other sources were investigated. The nuclear model employed was the microscopic quasiparticle-phonon model (MQPM). It was found that the impulse approximation produced good agreement with experiment when the quenched value of the coupling constant used was obtained from a linear fit from a comprehensive study of the quenching in beta-decays.

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