

High Energy Physics - Phenomenology

Neutrino and antineutrino quasielastic interactions with nuclei

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We investigate the interaction of neutrinos and antineutrinos with nuclei. We explore in particular the role played by the multinucleon excitations which can contaminate the quasielastic cross section. For neutrinos the multinucleon term produces a sizable increase of the quasielastic cross section. Part of the effect arises from tensor correlations. For antineutrinos this influence is smaller owing to the axial-vector interference which increases the relative importance of the terms which are not affected by these multinucleon excitations.

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