

6th International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region (NUINT 09)

Contribution ID: 129

Type: **Talk**

Coherent Pion production (PCAC)

Friday 22 May 2009 09:25 (20 minutes)

In the talk I will present results on coherent pion production by neutrinos scattered off nuclei. The method is based on PCAC and uses helicity cross sections for the scattering of weak gauge bosons on nuclei including the lepton mass in the formulas. The process relies on experimental data for elastic pion-nucleus scattering, thus it avoids discussing what is happening within the Nucleus. A detailed analysis of the differential and integrated cross sections is presented for neutral and charged currents, with special emphasis on the regions of integrations. The method is applicable to low and higher energies and has been extended to incident energies of 10.0 GeV. The predictions are consistent with present experimental results and provide a benchmark for measurements in the future.

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Session Classification: Single pion production II

Track Classification: Single pion production