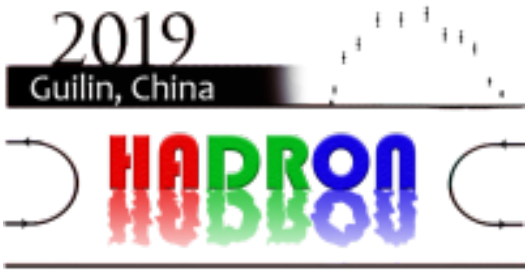

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Implication of chiral symmetry on neutral weak pion production off a nucleon

Wednesday, 21 August 2019 11:51 (19 minutes)

Neutral current single pion production induced by neutrinos and antineutrinos on nucleon targets has been investigated in manifestly relativistic baryon chiral perturbation theory with explicit $\Delta(1232)$ degrees of freedom up to $\mathcal{O}(p^3)$. At low energies, where chiral perturbation theory is applicable, the total cross sections for the different reaction channels exhibit a sizable non-resonant contribution, which is not present in event generators of broad use in neutrino oscillation and cross section experiments such as GENIE and NuWro.

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