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Symmetry Breaking and Nuclear Effects in Hyperon Production

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We study the properties of the Cabibbo suppressed quasielastic production of Λ and Σ hyperons in antineutrino interactions with nuclei using the NuWro Monte Carlo generator. Few events of this kind have been observed in previous experiments and the model is built exploiting the SU(3) quark flavour symmetry. We study the results of introducing symmetry breaking and the second class current into this model. Nuclear effects are included through final state interactions and a test potential affecting the hyperon. This potential reduces the inclusive hyperon production rate through reabsorption and a large fraction of Σ baryons are converted to Λ through reinteractions.

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