

Hadronic Parity Violation and the Large- N_c Expansion

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Parity-violating quark-quark interactions are well understood within the Standard Model, but their manifestation at the hadronic level is complicated by nonperturbative QCD effects. While different parameterizations of parity-violating nucleon-nucleon interactions exist, very little is known about the corresponding couplings. The application of the large- N_c expansion to parity-violating nucleon-nucleon interactions provides theoretical constraints on the size of the couplings. This analysis establishes a hierarchy of terms that can be mapped onto parity-violating potentials. This hierarchy implies relations between couplings and helps to delineate the terms that should be most important in phenomenological applications.

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