

Status of the hyperon-nucleon interaction in chiral effective field theory

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The Julich-Bonn-Munich Group aims at an extensive study of the baryon-baryon (BB) interaction involving strange baryons (Λ , Σ , Ξ) within SU(3) chiral effective field theory. An overview of achievements and new developments over the past few years will be provided. Among the issues covered are:

- Derivation of the leading charge-symmetry breaking (CSB) interaction in the ΛN system and its application in a study of CSB effects in $A=4$ Λ -hypernuclei.
- Updated results for the ΞN interaction at NLO and implication of that interaction for Ξ -hypernuclei.
- Possible extension of the ΛN - ΣN interaction to next-to-next-to-leading order.
- Constraints on the BB interaction from information on two-particle momentum correlation functions as measured in heavy ion collisions or in high-energy proton-proton collisions.

Author: HAIDENBAUER, Johann (Forschungszentrum Juelich GmbH)

Presenter: HAIDENBAUER, Johann (Forschungszentrum Juelich GmbH)

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