Hadronic Contributions to New Physics Searches



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Determinations of baryon sigma terms from chiral extrapolations of lattice QCD baryon masses

Monday 26 September 2016 17:50 (35 minutes)

Summary

Baryon sigma terms play an important role in our understanding of the quark-flavor structure of baryons. Recent

state-of-the-art $n_f = 2 + 1$ lattice QCD simulations of octet baryon masses have allowed us to extract the so-called baryon

sigma terms via the Feynmann-Hellman theorem using chiral perturbation theory. In this talk, we review the systematic study

carried out in the fully covariant baryon chiral perturbation theory and discuss the inconsistency of the nucleon-pion

sigma terms predicted by different approaches.

Presenter: GENG, Lisheng

Session Classification: Direct searches of Dark Matter