

Low-energy QCD, kaonic deuterium

Friday, September 19, 2014 11:30 AM (30 minutes)

An analysis of hadronic atoms data is known to be the best tool to extract information about hadronic scattering lengths [1,2]. In particular, the recent combined analysis of πH and πD data carried out within ChPT [2] resulted in a high accuracy extraction of the S-wave πN scattering lengths.

While the situation in kaonic systems is in general more complicated due to the presence of inelastic channels a combined analysis of KN and KD data has a big potential to pin down the KN scattering lengths. In this talk we discuss the status of the theory for KD scattering within low-energy EFT. A special emphasis is put on the role of recoil effects which appear as one of the main sources of the theory uncertainty in the calculation.

[1] J. Gasser, V. Lyubovitskij and A. Rusetsky, Phys. Rep. 456, 167 (2008)

[2] V. Baru, C.Hanhart, M.Hoferichter, B.Kubis, A.Nogga and D. Phillips, PLB 694, 473 (2011); NPA 872, 69 (2011)

Author: Dr BARU, Vadim (Bochum)

Presenter: Dr BARU, Vadim (Bochum)