



Contribution ID: 29

Type: **Talk**

Recoil corrections in antikaon-deuteron scattering

Monday, 29 June 2015 18:00 (15 minutes)

The recoil retardation effect in the K^-d scattering length is studied. Using the nonrelativistic effective field theory approach, it is demonstrated that a systematic perturbative expansion of the recoil corrections in the parameter $\xi = MK/mN$ is possible in spite of the fact that K^-d scattering at low energies is inherently nonperturbative due to the large values of the K^-N scattering lengths.

The first-order correction to the K^-d scattering length due to single insertion of the retardation term in the multiple-scattering series is calculated. The recoil effect turns out to be reasonably small even at the physical value of MK/mN approx 0.5. In the talk I will present these results as well as our more recent estimation of higher order corrections and the possibility to resum the recoil corrections to all orders.

Primary author: MAI, Maxim (HISKP, University of Bonn)

Co-authors: Prof. RUSETSKY, Akaki (University Bonn); Prof. EPELBAUM, Evgeny (University Bochum); Dr BARU, Vadim (University Bochum)

Presenter: MAI, Maxim (HISKP, University of Bonn)

Session Classification: Parallel Session 2 -Few-Body Physics WG

Track Classification: Few-Body Physics Working Group