

$\bar{K}N$ interaction, p-wave terms

Monday 27 June 2022 17:00 (20 minutes)

The inclusion of new ingredients that are expected to be specially relevant at higher energies could reveal more information about the physics behind the NLO terms of the chiral Lagrangian. In the present work, we explore the relevance of including partial waves higher than the $L = 0$, which is usually the only component considered in the literature to study the $\bar{K}N$ scattering phenomenology. In particular, we focus on the p-wave contribution, the effect of which is expected to be non-negligible, as we aim at obtaining the $\bar{K}N$ scattering amplitudes at higher energies, necessary to describe the $\eta\Lambda$, $\eta\Sigma^0$, $K^0\Xi^0$ and $K^+\Xi^-$ production reactions. Extending the $\bar{K}N$ interaction to p-wave components is also relevant for studies of bound \bar{K} mesons in nuclei since their local momentum can acquire sizable values.

Author: Dr FEJOO ALIAU, Albert (IFIC)

Co-authors: GAZDA, Daniel; MAGAS, Volodymyr; RAMOS, Àngels (University of Barcelona)

Presenter: Dr FEJOO ALIAU, Albert (IFIC)

Session Classification: 1; Mon-IV