

K- nucleon/nuclei interactions studies by AMADEUS at DAFNE

Tuesday, 6 June 2023 16:30 (30 minutes)

Experimental investigation of the strong interaction in the low-energy regime is mandatory to constrain models of the low-energy meson-baryon interaction, with implications in several fields, ranging from the search for exotic mesic nuclear bound states, to the structure of compact astrophysical objects like the neutron stars.

In this talk we will review the studies performed by the AMADEUS experiment, at the DAFNE collider of LNF-INFN, of the low-energy kaon-nucleon/nuclei interaction processes. More in detail we will report on the measurement of the non-resonant hyperon pion formation amplitude below the K-N threshold, of the branching ratios and of the low-energy cross sections of the K- multi-nucleon absorptions on various light nuclear targets and of the recent precise determination of the $K^- p \rightarrow (\Sigma^0/\Lambda) \pi^0$ cross sections close to threshold.

Primary author: Dr PISCICCHIA, Kristian (Istituto Nazionale di Fisica Nucleare)

Presenter: Dr PISCICCHIA, Kristian (Istituto Nazionale di Fisica Nucleare)

Session Classification: Hypernuclei and kaonic atoms

Track Classification: Hypernuclei and kaonic atoms