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K- nucleon/nuclei interactions studies by AMADEUS at DAFNE

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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. The recent, precise, determination of the $K^- p \rightarrow (\Sigma^0/\Lambda) \pi^0$ cross sections close to threshold will be shown. Future perspectives on the measurement of two- and three-body hyperon-nucleon interaction will be outlined.

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