Results on K^- absorption on few-nucleon systems with FINUDA at LNF

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Data from the $K^-_{stop}A$ absorption reaction on light nuclei, ^{6,7}Li, ^{9}Be and ^{12}C, have recently been collected by FINUDA at DAΦNE (LNF). The studies rely on $\Lambda p(d,t)$ correlations. Regardless of A, the $\Lambda p(d,t)$ pairs are found to be preferentially emitted in opposite directions. The presence of correlations in $\Lambda p(d)$ are also confirmed by the KEK-PS E549 experiment. The observation of a nearly constant rate of back-to-back $\Lambda p(d,t)$ pair production suggests that the absorption of K^- at rest in nuclei can proceed through the formation of an intermediate state, commonly known now as Bound Kaonic Nuclear State. The study of the existence of such states is based on the $\Lambda p(d,t)$ invariant mass and missing mass distributions, which allow the structure of bound $[K^-NN(NNN,NNNN)]$ systems in nuclei to be examined. Such clusters are identified by means of their mass (binding energy), decay width and yield. The experimental results will be compared with the most recent theoretical findings and the role of final state interactions of Λ's and $p(d,t)$ particles with the residual nucleus A' are discussed.

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