

Hypernuclear physics with FINUDA at DAΦNE

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The FINUDA experiment has successfully completed the first round of data taking at e^+e^- DAΦNE collider. The low energy (16 MeV) and monochromatic kaons from the decay of the ϕ meson produced at the can be successfully used to study the interaction of particles with strangeness in nuclear matter. The main purpose of the experiment FINUDA, operating at DAΦNE is the study of the formation and decays of Λ -hypernuclei through the strangeness exchange reaction $K_{\text{stop}} + {}^A Z \rightarrow {}^A_{\Lambda} Z + \pi^-$.

The results concerning hypernuclear physics and hypernuclear weak non-mesonic decays will be presented besides the first indications of the existence of deeply bound kaonic states. FINUDA allows to study the existence of these states exploiting its capabilities of fully reconstructing the particles coming from its decay by invariant mass analysis.