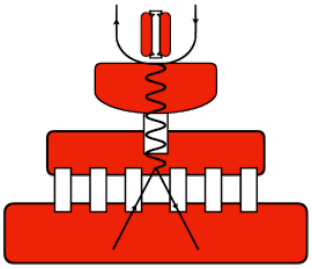

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Studies of low-energy K^- hadronic intearctions with light nuclei by AMADEUS

Thursday 12 September 2019 17:00 (20 minutes)

The AMADEUS collaboration aims to study the K^- hadronic interaction with light nuclei in the low-energy regime with high precision. The main goal is to provide information on the KbarN interaction in nuclear medium, fundamental for the understanding of the non-perturbative QCD in the strangeness sector, with implications going from nuclear physics to astrophysics. Hyperon-nucleon/nuclei (YN) and hyperon-pion (Yπ) correlation studies are performed with the aim to explore the possible existence of deeply bound kaonic states in nuclei and the properties of hyperon resonances in nuclear environment. AMADEUS takes advantage of the DAΦNE collider, which provides a unique source of monochromatic low-momentum kaons (p_K ~ 127 MeV/c). As a first step, we explore the hadronic interaction of the negative kaons in the materials of the KLOE detector, which is used as large acceptance and resolution active target, providing a high statistic sample of K^- nuclear absorption on H, ^{4}He, ^{9}Be and ^{12}C nuclei.

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