Contribution ID: **961** Type: **Talk**

Low-energy K^- interaction with light nuclei by the AMADEUS collaboration

Tuesday 29 August 2017 08:30 (30 minutes)

The AMADEUS collaboration is aiming 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 $\bar{K}N$ 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. Future plans will be also discussed.

Topic:

Topic: High Energy Particle Physics

Summary

Author: DEL GRANDE, Raffaele (LNF-INFN)

Presenter: DEL GRANDE, Raffaele (LNF-INFN)

Session Classification: Parallel session

Track Classification: A High Energy Particle Physics: