

Investigation of the low-energy kaons hadronic interactions in light nuclei by AMADEUS

Friday, November 27, 2015 3:30 PM (30 minutes)

The AMADEUS experiment deals with the investigation of the low-energy kaon-nuclei hadronic interaction at the DAΦNE collider at LNF-INFN, trying to answer pending questions in the non-perturbative strangeness QCD sector. AMADEUS step 0 consisted in the reanalysis of 2004/2005 KLOE data, exploiting K^- absorptions in H, ^4He , ^9Be and ^{12}C , leading to the first invariant mass spectroscopy study with very low momentum (100MeV) in-flight K^- captures.

The results obtained in the analyses of the hyperon-pion correlated events, searching for the resonant shapes of Y^* states, and the analyses of hyperon-deuteron, and triton correlations, leading to the first measurement of the K^- - 4NA cross section (for $p_k=100\text{MeV}/c$) will be presented. The preliminary measurement of the $K^- p \rightarrow \Sigma^0 \pi^0$ cross section (for $p_k=100\text{MeV}/c$) will be also shown.

Presenter: Mr PISCICCHIA, Kristian (LNF)

Session Classification: Session III