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Type: **Talk**

Studies of low-energy K^- - nucleus/nuclei interactions with light nuclei by AMADEUS

Tuesday 8 September 2020 11:00 (25 minutes)

The experimental investigation of the low-energy negatively charged kaons interaction with the nuclear matter is very important to understand the strength of the K^- nuclei interaction and to provide essential input to the non-perturbative QCD in the strangeness sector. This study has important consequences in various sectors of physics, like nuclear and particle physics, as well as astrophysics.

The AMADEUS collaboration aims to provide new experimental constraints to the K^- -N strong interaction in the regime of non-perturbative QCD, exploiting low-energy K^- hadronic interactions with light nuclei (e.g. H, ^4He , ^9Be and ^{12}C). The investigations are mainly focused on $\Lambda(1405)$ properties studies and clarification of an existence of deeply bound kaonic states. The studies are performed with low-momentum kaons ($p_K \sim 127$ MeV/c) produced at the DAΦNE collider of LNF-INFN, ideal to explore both stopped and in-flight K^- nuclear captures. The KLOE detector is used as active target, allowing to achieve excellent acceptance and resolutions for the data.

In the talk the results obtained from the recent AMADEUS studies will be presented.

Is this abstract from experiment?

Yes

Internet talk

Yes

Name of experiment and experimental site

AMADEUS

Is the speaker for that presentation defined?

Yes

Details

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Session Classification: Parallel session