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Further Theoretical Analysis on the $K^{-3}\text{He} \rightarrow \Lambda pn$ Reaction for the $\bar{K}NN$ Bound-State. Molecular approach to the recent Ω_c and pentaquark LHCb states.

Monday, 24 June 2019 17:30 (25 minutes)

In the first part I shall present an update of the theoretical approach of [1] to the $K^{-3}\text{He} \rightarrow \Lambda pn$ Reaction [2], adapting it to the most recent experimental results [3], where we show a good agreement with experiment using a picture based on chiral dynamics for the $\bar{K}NN$ Bound-State, which has a binding of about 20 MeV, shared by most theoretical approaches.

In the second part, I will present results based on the molecular approach to the recent Ω_c and pentaquark LHCb states, where a good reproduction on masses and widths is obtained for some observed states, and others are predicted.

[1] T. Sekihara, E. Oset and A. Ramos, Prog. Theor. Exp. Phys. 2016, 123D03 (2016).

[2] Y. Sada et al. [J-PARC E15 Collaboration], Prog. Theor. Exp. Phys. 2016, 051D01 (2016).

[3] S. Ajimura et al. [J-PARC E15 Collaboration], Phys. Lett. B 789, 620 (2019).

Primary authors: OSET, Eulogio (University of Valencia); Prof. RAMOS, Angels (University of Barcelona); Dr SEKIHARA, Takayasu (Advanced Science Research Center, Japan Atomic Energy Agency, Shirakata, Tokai, Ibaraki, 319-1195, Japan)

Presenter: OSET, Eulogio (University of Valencia)

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