



ID de Contribution: 7

Type: Non spécifié

Novel constraints for the multi-strange meson-baryon interaction using correlation measurements

mardi 5 novembre 2024 09:00 (25 minutes)

This talk presents recent correlation measurements involving Λ , Ξ , kaons and pions created in nucleus-nucleus collisions. Such measurements have been made available in the past few years, constituting new experimental constraints on the $S = -1, -2$ meson-baryon interactions and the nature of exotic states. The strong interactions involving mesons and baryons with strangeness content deliver a rather broad spectrum of interesting states, arising from the rich interplay between the elastic and inelastic QCD dynamics. The $\Lambda(1405)$ in the $S = -1$ sector is an example of such molecular state, but in order to build a solid description of its inner structure more data are needed, particularly below the $K N$ energy threshold. Much less experimental data are currently available on another potential molecular state, the $\Xi(1620)$, predicted and observed in the $S = -2$ meson-baryon sector. The presented correlation data put new constraints on these sectors and deliver a better understanding on such states.

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