



Contribution ID: 159

Type: Poster

Strange particle production in p-Pb collisions at $\sqrt{s_{NN}} = 8.16$ TeV with ALICE at the LHC

Wednesday 6 April 2022 18:06 (4 minutes)

The main goal of the ALICE experiment is to study the physics of strongly interacting matter, including the properties of the Quark-Gluon Plasma (QGP). The relative production of strange hadrons with respect to non-strange hadrons in heavy-ion collisions was historically considered one of the signatures of QGP formation. However, recent measurements in proton-proton (pp) and proton-lead (p-Pb) collisions have shown features that are reminiscent of those observed in lead-lead (Pb-Pb) collisions, exhibiting an increase in the production of strange hadrons relative to pions with the charged particle multiplicity in the event.

We report the new preliminary mid-rapidity measurement of the transverse momentum spectra and yields of K_s^0 , Λ and $\bar{\Lambda}$ in the p-Pb collision system at $\sqrt{s_{NN}} = 8.16$ TeV. Results have been obtained in several multiplicity bins, so that a comparison to lower energy p-Pb results and to similar measurements in pp and Pb-Pb collisions can be performed. Finally, the comparison to phenomenological models will be discussed.

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Session Classification: Poster Session 1 T05_1

Track Classification: QGP in small and medium systems