



Contribution ID: 75

Type: **not specified**

Measuring multi-strange hadron in heavy-ion collisions at the LHC with ALICE

Monday, July 30, 2018 12:15 PM (15 minutes)

A strongly interacting state of matter known as the Quark-Gluon Plasma (QGP) is formed in the high temperature and energy density conditions reached in ultra-relativistic heavy-ion collisions. Historically, one of the signatures of the formation of such a system was the enhanced production of strange and multi-strange hadrons with respect to non-strange. The ALICE detector is ideally suited to study identified particle production rates. The excellent tracking and particle identification capabilities allow the reconstruction of multi-strange baryons (Ξ^- , Ξ^+ , Ω^- and Ω^+) via their weak decay channels over a large range in transverse momentum (p_T). In this work, we report on the p_T spectra and total yield of such hadrons at central rapidity in several centrality classes as measured by ALICE for Pb-Pb collisions at the energy of $\sqrt{s_{NN}} = 5.02$ TeV and for Xe-Xe collisions at $\sqrt{s_{NN}} = 5.44$ TeV. The yields are normalized by the corresponding measurement of pion production in the same centrality class in order to study the enhancement of multi-strange hadrons. Comparison of hyperon-to-pion ratio between different systems, such as pp, p-Pb, Xe-Xe and Pb-Pb collisions shows that production of multi-strange baryons relative to pions follows a continuously increasing trend from low multiplicity pp to central AA collisions.

Primary author: SILVA DE ALBUQUERQUE, Danilo (University of Campinas UNICAMP (BR))

Presenter: SILVA DE ALBUQUERQUE, Danilo (University of Campinas UNICAMP (BR))

Session Classification: Análise de Dados

Track Classification: Análise de Dados