Quark Matter 2015 - XXV International Conference on Ultrarelativistic Nucleus-Nucleus Collisions



Contribution ID: 342

Type: Poster

Production of strange hadrons in charged jets in p-Pb and Pb-Pb collisions measured with ALICE at the LHC

Tuesday, 29 September 2015 16:30 (2 hours)

Studies of jet production can provide information about the properties of the hot and dense strongly interacting matter created in ultra-relativistic heavy-ion collisions.

Specifically, measurements of strange hadrons in jets may clarify the role of fragmentation processes in the anomalous baryon to meson ratio at intermediate particle $p_{\rm T}$, that firstly was observed in A-A collisions at RHIC and later confirmed in lead-lead (Pb–Pb) collisions at the LHC. Furthermore also measurements in proton-lead (p–Pb) collisions at the LHC showed this anomaly, but to a lesser extent.

In this contribution, measurements are presented of the $p_{\rm T}$ spectra of $\Lambda(\overline{\Lambda})$ baryons and K_S^0 mesons produced in association with charged jets in Pb–Pb collisions at $\sqrt{s_{\rm NN}} = 2.76$ TeV and p–Pb collisions at $\sqrt{s_{\rm NN}} = 5.02$ TeV. The analysis is based on data recorded by ALICE at the LHC, exploiting its excellent particle identification capabilities. The baryon/meson ratios of strange particles associated with jets are studied as a function of the event activity in p-Pb collisions and are restricted to central events in Pb-Pb collisions. A comparison is shown to the ratios obtained for inclusive particle production and for particles stemming from the underlying event as well as to PYTHIA proton-proton (pp) simulations.

On behalf of collaboration:

ALICE

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Track Classification: Jets and High pT Hadrons