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Baryon to meson ratio in jets and underlying event in Pb-Pb, p-Pb and pp collisions with ALICE detectors

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It has been found that the baryon to meson ratio at intermediate transverse momentum ($p_{\rm T}$) is up to a factor two larger in the systems such as Pb-Pb but also p-Pb collisions than that in pp collisions. Particle production at intermediate $p_{\rm T}$ is expected to have contributions from hadronization of the medium as well as from fragmentation of high-momentum partons.

To disentangle the different contributions, ALICE studies particle production in reconstructed jets and the underlying event separately.

In this contribution, we present of the $p_{\rm T}$ spectra of Λ ($\overline{\Lambda}$) baryons and ${\rm K}^0_{\rm S}$ mesons produced in association with charged jets in Pb–Pb collisions at $\sqrt{s_{\rm NN}} = 2.76$ TeV, p-Pb collisions at $\sqrt{s_{\rm NN}} = 5.02$ TeV and pp collisions at $\sqrt{s} = 7$ TeV. The analysis is based on data recorded by ALICE at the LHC, exploiting its excellent particle identification capabilities. Features of baryon to meson ratios in jets at such collision systems will be explored. A comparison will be shown to the ratios obtained for inclusive particle production and for particles stemming from underlying event as well as to PYTHIA pp simulations.

Summary

Presentation type

Oral

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