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Production of strange particles in charged jets in Pb–Pb and p–Pb collisions measured with ALICE

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Properties of the hot and dense strongly interacting matter created in ultra-relativistic heavy-ion collisions can be studied using jets.

Hadronisation processes occurring in jets are expected to be modified by the interaction of partons with the medium.

At intermediate p_T , a strong increase of the baryon-to-meson ratio is observed for inclusive light particles produced in heavy-ion collisions when compared to the ratio measured in proton–proton collisions.

Production by fragmentation cannot explain this phenomenon.

Other hadronisation mechanisms, like coalescence or parton recombination, have been proposed instead.

Measurements of spectra of identified particles produced in jets in heavy-ion collisions can provide further important insights into the interplay of various hadronisation processes which participate in the particle production in the hot and dense medium.

In this contribution, we present the measurements of the p_T spectra of Λ baryons and K_S^0 mesons produced in association with charged jets in Pb–Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV and in p–Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV.

The results are obtained with ALICE at the LHC, exploiting the excellent particle identification capabilities of this experiment.

Baryon-to-meson ratios of the spectra of strange particles associated with jets are studied in central collisions and are compared to the ratios obtained for inclusive particles and for particles coming from the underlying event.

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