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

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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, measurement of strange particles in jets may clarify the role of fragmentation processes in the anomalous baryon to meson ratio at intermediate particle p_T that was observed in Pb–Pb and, to a lesser extent, in p–Pb collisions.

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

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