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Jet-like correlations with V^0 triggers in pp and Pb–Pb collisions with ALICE at the LHC

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The measurement of azimuthal correlations between two particles is a powerful tool to investigate the properties of strongly-interacting nuclear matter created in ultra-relativistic heavy-ion collisions. In particular, studying the near-and away-side hadron yields associated with trigger particles can provide important information to understand both the jet-medium interaction and hadron production mechanism. In this contribution, we present a study of two-particle correlations; $\mathrm{V}^0(\mathrm{K}^0_\mathrm{S},\ \Lambda/\overline{\Lambda})$ and charged hadrons as trigger particles with a transverse momentum of $8 < p_{\mathrm{T,trig}} < 16$ GeV/c and associated charged particles of 1 GeV/$c < p_{\mathrm{T,assoc}} < p_{\mathrm{T,trig}}$ at mid-rapidity in pp and Pb–Pb collisions at $\sqrt{s_{\mathrm{NN}}} = 5.02$ TeV recorded with the ALICE detector.
After subtracting the contributions from the flow background, the per-trigger yields are calculated on the near and away-side. The ratio of the per-trigger yields in Pb–Pb collisions with respect to pp collisions, I_{AA}, is measured in the most central (0–10%) collisions. A significant enhancement of I_{AA} for various particle species is observed at the lowest $p_{\mathrm{T,assoc}}$ on both the near- and away-side, while a strong suppression of I_{AA} for $p_{\mathrm{T,assoc}} > 3$ GeV/c on away-side is observed as expected from strong in-medium energy loss. The data are compared to AMPT, HIJING and EPOS models. All calculations, except HIJING, qualitatively describe the near- and away-side yield modifications at
intermediate and high $p_{\mathrm{T,assoc}}$.

Is this abstract from experiment?

Yes

Name of experiment and experimental site

ALICE

Is the speaker for that presentation defined?

Yes

Details

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Internet talk

Maybe

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