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Neutral pion - hadron correlations in pp and Pb–Pb collisions measured at the ALICE experiment

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The study of the azimuthal correlation with π^0 offers a powerful way to investigate the properties of strongly-interacting matter created in ultra-relativistic heavy-ion collisions.

In this talk, we present the measurement of two-particle correlations of π^0 trigger particles with associated charged particles versus azimuthal angle difference ($\Delta\varphi$) in pp and central Pb–Pb collisions at $\sqrt{s_{NN}}=2.76$ TeV with the ALICE experiment. π^0 are detected by the ALICE electromagnetic calorimeter EMCal for transverse momenta $8 < p_T < 16$ GeV/c, and charged particles are measured by the ALICE main tracking detectors ITS and TPC for $0.5 < p_T < 10$ GeV/c, both at mid-rapidity.

The extracted per-trigger yield modification factors (I_{AA}) on the near and away side are compared with the expectations from theoretical models. The measurement is sensitive to the modifications of the medium modified fragmentation pattern in the QGP.

Experimental Collaboration

ALICE Collaboration

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