

Long range two-particle correlations in p -Pb collisions at $\sqrt{s_{NN}}=5.02$ TeV with ALICE

Correlations measurements as a function of the azimuthal angle and rapidity are very useful for investigating particle productions in high-energy nucleus-nucleus collisions.

Long range, near side angular correlations have been observed in high multiplicity pp and p -Pb collisions at the LHC energies.

Possible explanations of the long range correlations in high multiplicity pp and p -Pb collisions are the collective behavior of the created medium and/or the remnants of the strong color fields created by the dense gluonic field (gluon saturation).

The saturation effects are expected to be enhanced at the forward rapidity region and measurements of the particle productions with large rapidity gaps and the centrality dependence are important to quantify saturation and hydrodynamical final state effects.

We will present results on two-particle correlations between the ALICE central barrel tracking detectors at $-0.9 < \eta < 0.9$ and the ALICE VZERO detectors at $-3.7 < \eta < -1.7$ (V0C) and $2.8 < \eta < 5.1$ (V0A), as well as the V0A-V0C correlations for p -Pb collisions at $\sqrt{s_{NN}}=5.02$ TeV.

v_2 and v_3 in the forward and central rapidity regions from TPC-V0A, TPC-V0C, and V0A-V0C correlations as a function of centrality, η gap, and transverse momentum will be compared with AMPT and hydro calculations.

Preferred Track

Correlations and Fluctuations

Collaboration

ALICE

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