Contribution ID: **555** Type: **Parallel session talk**

Unraveling the origin of collectivity in high and low multiplicity pp and p–Pb collisions in ALICE at the LHC

Thursday, 18 July 2024 11:02 (17 minutes)

We investigate the possibility of a partonic phase in small systems with the elliptic flow of mesons (π^{+-}, K^{+-}, K^0) and baryons (p+$\bar{p}$, Λ+$\bar{\Lambda}$) in high-multiplicity p–Pb collisions at $\sqrt{s_{\rm NN}}$ = 5.02 TeV and pp collisions at $\sqrt{s}$ = 13 TeV measured by ALICE. The results show a grouping (with 1σ significance) and splitting (with 5σ confidence) behavior of v_2 at intermediate pt. This phenomenon, reminiscent of partonic flow in heavy-ion collisions, has been observed with such high precision for the first time in small collision systems. Comparison with the hydrodynamic model with hadronization via quark coalescence indicates the formation of a deconfined partonic medium in small systems. We further extend these measurements down to the low multiplicity in pp collisions employing large pseudorapidity separation ($5.0 < |\Delta\eta| < 6.0$) to explore the limits to the formation of the collective medium and presence of partonic degrees of freedom.

Alternate track

I read the instructions above

Yes

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Session Classification: Heavy Ions

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