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Experimental analyses of small collision systems

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Content

The azimuthal anisotropies of particle yields observed in relativistic heavy ion collisions have been traditionally considered as a strong evidence of the formation on a deconfined quark-gluon plasma produced in these collisions. However multiple recent measurements in pp and p/D/He+A collisions show similar features as those observed in A+A Collisions, indicating the possibility of the production of such a deconfined medium in smaller collision systems. In this talk I will present a comprehensive summary of these measurements in small systems. It includes measurements of identified and inclusive two-particle correlations in $\Delta\phi$ and $\Delta\eta$, with different procedures used to subtract the dijet contributions, as well as measurements of multi-particle cumulants $c_{\{2 - -8\}}$. The traditional cumulant measurements confirm presence of collective phenomena in p+A collisions, but are biased by non-flow correlations and are not able to provide evidence for collectivity in pp collisions. To address this, a new sub-event cumulant method that further suppresses the contribution non-flow effects was developed, whose measurements will also be discussed.

Session

Collectivity in high energy collisions

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