

Anatomy of particle production and azimuthal anisotropy in small and large systems

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The question of whether there are fundamental differences between soft particle production in small systems (p+p, p+A, etc) and large systems (A+A(B)) is deemed by many to be an unsettled issue. The explicit role of the initial state for these systems is similarly predisposed. I will demonstrate that the scaling properties of the pseudorapidity density ($dN/d\eta$) for p+p, p+A and A+A(B) collisions, and the mean multiplicity $\langle N_{ch} \rangle$ for ee, ep, and p+p collisions, are fully compatible with a thermal particle production mechanism for the bulk of the soft particles produced in all of these collision systems. Further, I will demonstrate, via recent azimuthal anisotropy and HBT measurements, that the expansion dynamics for both small and large systems are unquestionably similar. The implications/opportunities associated with these finding will be discussed as well.

Collaboration

Other

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