

## Correlations between mean transverse momenta

The study of the correlations between observables in two separated rapidity windows separated in rapidity has been proposed [1] as a signature of the string fusion and percolation phenomenon, which is one of the collectivity effects [2] in ultrarelativistic heavy ion collisions. In this work we study the correlations between the values of mean-event transverse momentum  $\overline{p_T}$ :

$$\overline{p_T} = \frac{1}{n} \sum_{i=1}^n p_{T_i}.$$

Such correlations being robust against the volume fluctuations and the details of the centrality determination make a clear signal, allowing comparison between models and experiment.

We provide the predictions for  $\overline{p_T} - \overline{p_T}$  correlations in Pb-Pb collisions at LHC energies in the framework of dipole-based Monte Carlo model with string fusion [3] and compare them with the results which we obtained using various Monte Carlo generators and alternative models. The comparison shows that the correlations between mean transverse momenta carry the unique information about the initial stage of heavy ion collisions.

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