

## Forward-backward correlations between intensive observables

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Demonstrated that the investigations of the forward-backward correlations between intensive observables enable to obtain more clear signal about the initial stage of hadronic interaction, e.g. about the process of string fusion, compared to usual forward-backward multiplicity correlations. As an example the correlation between mean-event transverse momenta of charged particles in separated rapidity intervals is considered. The calculations are fulfilled in the model with string fusion by introducing a lattice in transverse plane. The dependence of the correlation strength on the collision centrality is obtained for different initial energies. It is shown that above RHIC energy the dependence reveals the decline of the correlation coefficient for most central collisions, reflecting the attenuation of color field fluctuations due to the string fusion at large string density. It is also found that contrary to the correlation between transverse momenta of single particles the strength of the correlation between mean-event transverse momenta of particles in two separated rapidity intervals is not decreasing with the total number of produced strings, remaining significant even in the case of Pb-Pb collisions, in which the total number of strings can reach several thousand. All this makes this type of correlation promising for the observation of the signatures of string fusion at the initial stage of hadronic interaction in relativistic heavy ion collisions at LHC energy.

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### Collaboration

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