

Forward-Backward Correlation between Mean Event Transverse Momenta in String Fusion Model

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The explicit analytical expression for the asymptotic of the correlation coefficient between mean event transverse momenta of charged particles produced in separated rapidity intervals is derived. The asymptotic at large string density is obtained in the model with string fusion by introducing a lattice in the transverse plane and assuming the translational invariance of the particle production from strings in rapidity at high energies. It is found that in contrast to the correlation between transverse momenta of single particles the strength of the correlation between mean event transverse momenta in two separated rapidity intervals is not decrease with the total number of initial strings. That makes this type of correlation promising for the observation in relativistic heavy ion collisions. It is also found that in this limit the strength of the correlation does not depends on the variance in the number of particles produced by a single sources, in contrast to the correlation between multiplicities or the transverse momentum and multiplicity.

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