

Forward-backward multiplicity correlations with strongly intensive observables in pp collisions simulated in PYTHIA

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Strongly intensive observables can be used to measure forward-backward (FB) correlations between charged particles in two separate pseudorapidity intervals. We will present calculations of observables in pp collisions simulated in PYTHIA at the LHC energies, and examine the azimuthal dependence of such correlations. Within the model of independent statistically identical particle sources, these observables do not depend on the mean value and fluctuations in the number of the sources, and therefore may provide a signature of collective behavior in the system. The magnitude of the FB correlation strength is obtained for different gaps between pseudorapidity intervals and for different combinations of azimuthal windows, selected within the pseudorapidity intervals. The collision energy and multiplicity class dependence of the FB correlations is studied.

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