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Interacting color strings approach in modeling of rapidity correlations

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Phenomenological model of color quark-gluon strings as particle emitting sources [1] is developed and used to study correlations in rapidity of different event observables such as multiplicity and mean particle transverse momenta [2]. The color strings dynamics at initial stages of the relativistic collisions is considered both in rapidity dimension [3] and in transverse plane [4]. The former is defined by the partons momenta at string ends, while the latter is represented by strings interaction via sigma meson exchange. Providing this 3-d density, strings can partially overlap, which leads to their fusion and modifications of production characteristics [5]. Model results are compared with the PYTHIA event generator and available data on p+p inelastic interactions.

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