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Strongly intensive observables in the model with string fusion

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The strongly intensive observable between multiplicities in two acceptance windows separated in rapidity and azimuth is calculated in the model with quark-gluon color strings acting as sources. The dependence of this variable on the string two-particle correlation function, the width of observation windows and the rapidity gap between them is found.

In the case with independent identical strings the model calculation confirms the strongly intensive character of this observable: it is independent of both the mean number of string and its fluctuation. The peculiarities of the behavior of the strongly intensive observables between multiplicities of particles with different electric charges are also analyzed.

In the case when the string fusion processes are taken into account and a formation of strings of a few different types takes place, it is shown that this observable is equal to a weighted average of its values for different string types. Unfortunately in the last case through the weighting factors this observable becomes dependent on collision conditions.

For a comparison the results of the calculation of considered observable with the PYTHIA event generator are also presented.

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