

## Repulsion of quark-gluon strings and flow harmonics in hadron collisions

Color flux tubes (quark-gluon strings), formed at early stages of hadron-hadron collision, may overlap in case of sufficiently high densities and interact by repelling or attracting each other, depending on the direction of the color fluxes (V.A. Abramovsky, O.V. Kanchely, 1980). Thus, in the hypothesis of repulsive interaction, in case of opposite color fluxes, strings may acquire, before the hadronization, the additional transverse boost. The last one is an efficient sum of all accounted string-string interactions. This produces additional transverse momenta to the particles formed in string decays over a wide range of rapidity, thus leading to modification of observables and to azimuthal asymmetry of two-particle correlations. In this report we discuss results of implementation of the Monte Carlo toy-model with the account of the string repulsion, and with an efficient string-string interaction radius.

We show that the effect of string repulsion, as the main dynamic origin of the elliptic flow and of the higher harmonics, can describe the complicated structures observed in two-particle long-range correlation topology in proton-proton and nucleus-nucleus collisions at RHIC and at LHC.

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### Collaboration

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