

## High Energy Physics - Phenomenology

# Study of $\pi\pi$ correlations at LHC and RHIC energies in $pp$ collisions within the quark-gluon string model

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The Quark Gluon String Model (QGSM) reproduces well the global characteristics of the  $pp$  collisions at RHIC and LHC, e.g., the pseudorapidity and transverse momenta distributions at different centralities. The main goal of this work is to employ the Monte Carlo QGSM for description of femtoscopic characteristics in  $pp$  collisions at RHIC and LHC. The study is concentrated on the low multiplicity and multiplicity averaged events, where no collective effects are expected. The different procedures for fitting the one-dimensional correlation functions of pions are studied and compared with the space-time distributions extracted directly from the model. Particularly, it is shown that the double Gaussian fit reveals the contributions coming separately from resonances and from directly produced particles. The comparison of model results with the experimental data favors decrease of particle formation time with rising collision energy.

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