

Correlation femtoscopy studies at NICA and STAR energies within a viscous hydrodynamic + cascade model

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Correlation femtoscopy allows one to measure the space-time characteristics of particle production in relativistic heavy-ion collisions due to the effects of quantum statistics and final state interactions. The main features of the femtoscopy measurements at top RHIC and LHC energies are considered as a manifestation of strong collective flow and well interpreted within hydrodynamic models employing equation of state with a crossover type transition between QGP and hadron gas phases. The femtoscopy at lower energies was intensively studied at AGS and SPS accelerators and is being studied now in the Beam Energy Scan program at the BNL Relativistic Heavy Ion Collider in the context of exploration of the QCD phase diagram. In this work the femtoscopic observables calculated for Au-Au collisions in a viscous hydro+cascade model vHLL+UrQMD and their dependence on the EoS of thermalized matter are presented. Some possible opportunities to perform such studies with respect to the NICA energies are also discussed.

List of tracks

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