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Perspectives of correlation femtoscopy studies at NICA and STAR BES energies.

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The main features of the femtoscopy measurements at top RHIC and LHC energies are considered as a manifestation of strong collective flow and are well interpreted within hydrodynamic models employing equation of
state (EoS) with a crossover type transition between Quark-Gluon Plasma (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 (BES) at the BNL Relativistic Heavy Ion Collider in the context of exploration of the QCD phase diagram. We present femtoscopic observables calculated for Au-Au collisions at $\sqrt{s_{NN}} = 7.7 - 62.4$~GeV in a viscous hydro + cascade model \texttt{vHLLE+UrQMD} and their dependence on the EoS of thermalized matter. We also discuss the perspectives of femtoscopy studies
at NICA energies scale $\sqrt{s_{NN}} = 4 - 11$~GeV.

List of tracks

New methods and facilities

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