

Effects of rotation in exact non-relativistic multi-component solutions of fireball hydrodynamics

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We describe fireballs that rehadronize from a perfectly fluid quark matter to a chemically frozen, multi-component hadron gas. In the hydrodynamics of these fireballs, we utilize the lattice QCD equation of state, however, we also apply non-relativistic kinematics for simplicity and clarity. A realistic, linear mass scaling of the slope parameters of the single particle spectra of various hadronic species is obtained analytically, as well as an also realistic, linear mass scaling of the inverse of the squared HBT radius parameters of the Bose-Einstein correlation functions. Observables are presented that are sensitive to the effects of hadrochemical freeze-out and the differences between cross-over and second order phase transitions.

List of tracks

Femtoscopy in A+A, p+p, p+A and e+e- collisions at relativistic, intermediate and low energies

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