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## Effect of the equation of state on particle spectra, elliptic flow and HBT radii

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We present results of a systematic study of the role of the equation of state in the hydrodynamic model. By using the same initial conditions and freeze-out scenario, the effects of different equations of state are compared by calculating their respective hydrodynamical evolution, particle spectra, elliptic flow and HBT radii. Three different types of equation of state are studied, each focusing on different features, such as nature of the phase transition, strangeness and baryon densities. Different equations of state imply different hydrodynamic responses, the impact thereof on final state anisotropies are investigated. The results of our calculations are compared to the data from RHIC at 130 GeV and 200 GeV. It is found that the three equations of state used in the calculations describe the data reasonably well; differences can be observed, but they are quite small. The insensitivity to the equation of state seems to weaken the need for a locally thermalized description of the system, at least for the observables analyzed in this work. A precise determination of transport coefficients by fitting collective flow parameters in the framework of hydrodynamics still requires caution.

### On behalf of collaboration:

None

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