

Bulk viscosity in heavy-ion collision

In this work we examine the bulk viscous correction to the distribution function (δf) in both the relaxation time approximation and from weakly coupled QCD. We then incorporate this bulk viscous correction in 2+1 Dimensional viscous relativistic hydrodynamics and compute particle spectra and elliptic flow. Since the thermal mass for quark and gluons are different the departures from equilibrium are also different. We explore how a species dependent bulk viscous δf affects particle spectra and how the bulk and shear viscous effects can possibly be separated in the data.

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