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# Fluid dynamic propagation of initial baryon number perturbations on a Bjorken flow background

Baryon number density perturbations offer a possible route to experimentally measure baryon number susceptibilities and heat conductivity of the quark gluon plasma. We study the fluid dynamical evolution of local and event-by-event fluctuations of baryon number density, flow velocity and energy density on top of a (generalised) Bjorken expansion. To that end we use a background-fluctuation splitting and a Bessel-Fourier decomposition for the fluctuating part of the fluid dynamical fields with respect to the azimuthal angle, the radius in the transverse plane and rapidity. We examine how the time evolution of linear perturbations depends on the equation of state as well as on shear viscosity, bulk viscosity and heat conductivity for modes with different azimuthal, radial and rapidity wave numbers. Finally we discuss how this information is accessible to experiments in terms of the transverse and rapidity dependence of correlation functions for baryonic particles in high energy nuclear collisions.

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