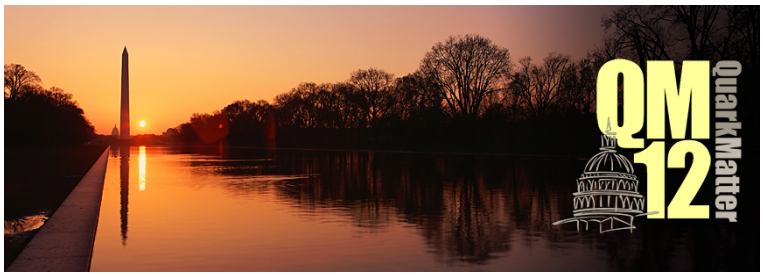

Contribution ID: **517** Type: **Poster**

Perturbative calculation in 1+1dimensional relativistic viscous hydrodynamics

Thursday, August 16, 2012 4:00 PM (2 hours)

We discuss the evolution of the fluctuation in the initial conditions
of entropy densities (energy densities) using 1+1 dimensional hydrodynamic calculations.
We explore not only the evolution of the fluctuation but also the origin of it.
If the local thermal equilibrium is established at early time of the heavy ion collision
and the mean free path of produced particles is sufficiently short,
then the later evolution of the system may be described by relativistic hydrodynamics.
Most of studies have been performed with ideal hydrodynamics, but it is necessary to
take into account of viscosity effect in hydrodynamical expansion
to understand experimental data in detail.
In particular, we focus on the dynamics along the collision axis and investigate how
the viscous effects appear in evolution of the fluctuation
in the framework of perturbation with respect to the bulk and shear viscosities.
Assuming that the bulk and shear viscosities are small we calculate the entropy
production during hydrodynamic evolution and the initial condition
dependence of it.
Here we use the Bjorken's solution for the ideal part (0th-order) in our
perturbative approach and show detail calculated results.

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Session Classification: Poster Session Reception

Track Classification: Global and collective dynamics