

## Elliptic Flow from Non-equilibrium Initial Condition with a Saturation Scale

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A current goal of relativistic heavy ion collisions experiments is the search for a Color Glass Condensate (CGC) as the limiting state of QCD matter at very high density. In viscous hydrodynamics simulations, a standard Glauber initial condition leads to estimate  $4\pi\eta/s \sim 1$ , while employing the Kharzeev-Levin-Nardi (KLN) modeling of the glasma leads to at least a factor of 2 larger  $\eta/s$ .

Within a kinetic theory approach based on a relativistic Boltzmann-like transport simulation, our main result is that the out-of-equilibrium initial distribution reduces the efficiency in building-up the elliptic flow. At RHIC energy we find the available data on  $v_2$  are in agreement with a  $4\pi\eta/s \sim 1$  also for KLN initial conditions. More generally, our study shows that the initial non-equilibrium in  $p$ -space can have a significant impact on the build-up of anisotropic flow.

### Keywords

Heavy ion collisions, Color Glass Condensate, Shear Viscosity, Elliptic Flow, Transport Theory

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