

Initial stages in heavy-ion collisions: Isotropization and hydrodynamization

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Early stages before hydrodynamization in heavy ion collision is studied by numerically solving a 2+1D effective kinetic theory of weak coupling QCD under longitudinal expansion. We find agreement with viscous hydrodynamics and classical Yang-Mills simulations in the regimes where they are applicable. By choosing initial conditions that are motivated by color-glass-condensate framework we find that for $Q_s = 2\text{GeV}$ and $\alpha_s = 0.3$, the system is approximately described by viscous hydrodynamics well before $\tau \sim 1.0 \text{ fm}/c$.

Collaboration

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