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Simulation of heavy-ion collisions in non-abelian gauge theories

In spite of the success of relativistic viscous hydrodynamic models
in high-energy-heavy ion collisions, an initial condition of them is still under discussion.
For example, thermalisation and hydrodynamization processes in short time after collisions
are not clear. Besides we do not understand an applicability condition of hydrodynamical
model to high-energy heavy-ion collisions.

To gain the insight of the issues, we perform simulations of the colliding nuclei
in non-Abelian gauge theories.
We show the space-time evolution of energy densities and momentum distributions after collisions
and discuss the hydrodynamization process.
Furthermore we compare the numerical results with the ones in which the simulation starts just
after collisions.

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