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Hydrodynamical description of the QGP using energy-momentum in-medium deposition by an extended source

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Content

Fast-moving partons lose energy and momentum along their paths through the QGP. This deposition of energy-momentum creates a disturbance in the medium that can be described using approximations within relativistic hydrodynamics in a defined regime of the QGP evolution. Based on earlier research in this field, where a localized source was used to model the parton energy-momentum in-medium deposition and where the energy loss per unit length on the traveling-parton path is a simple function of its path length, we study the use of extended sources that depend on the location of the parton-jet in the initial stages of the QGP evolution. We explore this approach as a way to complement the current numerical landscape of hydrodynamical QGP studies and to eventually generate initial conditions that can be used as input on numerical simulations in different hydrodynamical set-ups.

Session

Poster sessions

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