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High Energy Physics - Theory

Extraction of shear viscosity in stationary states of relativistic particle systems

Felix Reining, Ioannis Bouras, Andrej El, Chistian Wesp, Zhe Xu, Carsten Greiner

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Starting from a classical picture of shear viscosity we construct a stationary velocity gradient in a microscopic parton cascade. Employing the Navier-Stokes ansatz we extract the shear viscosity coefficient η. For elastic isotropic scatterings we find an excellent agreement with the analytic values. This confirms the applicability of this method. Furthermore for both elastic and inelastic scatterings with pQCD based cross sections we extract the shear viscosity coefficient η for a pure gluonic system and find a good agreement with already published calculations.

Submission history

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