

Abstract Submitted
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Heavy Quark Dynamics in a Linearized Boltzmann Approach¹

J. SCOTT MORELAND, STEFFEN BASS, Duke University — The quark-gluon plasma (QGP) produced in ultra-relativistic heavy-ion collisions at RHIC and LHC has exhibited a number of interesting properties. In our work we focus on the dynamics of heavy quarks produced in the early stages of the collision which show a surprising amount of elliptic flow and a strong suppression in the high- p_{\perp} domain. Our study is conducted with a newly developed linearized Boltzmann approach for the propagation of heavy quarks in a realistic QGP medium described by relativistic viscous fluid dynamics. Our approach uses pQCD matrix elements for the interaction between the heavy quarks and the QGP fluid and is thus designed to test whether heavy quark dynamics can be understood in terms of heavy quarks interacting perturbatively with a non-perturbative soft medium.

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