

Fluctuating Open Heavy Flavour Energy Loss in a Strongly Coupled Plasma with Observables from RHIC and the LHC

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Heavy ion collisions at RHIC and at the LHC produce an enormous amount of energy that enables the nuclei and its constituent particles to melt, thus releasing gluons, quarks and anti-quarks, travelling in different directions with different momenta. Studies of these collisions have shown that low transverse momentum observables describe a strongly coupled plasma (quark-gluon plasma), an almost perfect liquid that evolves hydrodynamically and flows with almost no viscosity. We make predictions for the suppression of the heavy flavor mesons that these heavy quarks decay to and thus describe the energy loss of these heavy quarks as they interact with the plasma; we show that these predictions are in good agreement with experimental data.

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