

Momentum broadening in weakly coupled quark-gluon plasmas

Jet quenching parameter is an important quantity in order to understand energy losses in heavy ion collisions and to get insights into properties of deconfined quark-gluon plasmas. Soft Collinear Effective theory provides framework to define momentum broadening of probing quark/gluon and thus define jet quenching parameter as the expectation value of two space-like separated light-like Wilson lines which can be evaluated for the desired medium. In this work we evaluate jet quenching parameter at weak coupling for quark-gluon plasmas in thermal equilibrium using Hard Thermal Loop resummed effective thermal field theory.

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