



19th International Conference on QCD in Extreme Conditions (XQCD 2023)

Contribution ID: 32

Type: **Talk**

Jet quenching in glasma

Thursday, July 27, 2023 11:20 AM (25 minutes)

We discuss the transverse momentum broadening of hard probes traversing an evolving glasma, which is the earliest phase of the matter produced in relativistic heavy-ion collisions. The coefficient \hat{q} is calculated using the Fokker-Planck equation, and an expansion in the proper time τ which is applied to describe the temporal evolution of the glasma. The correlators of the chromodynamic fields that determine the Fokker-Planck collision terms, which in turn provide \hat{q} , are computed to fifth order in τ . The momentum broadening is shown to rapidly grow in time and reach a magnitude of several GeV^2/fm . We show that the transient pre-equilibrium phase provides a contribution to the energy loss of hard probes which is comparable to that of the long lasting, hydrodynamically evolving, equilibrium phase.

Author: MROWCZYNSKI, Stanislaw (National Centre for Nuclear Research, Warsaw, Poland)

Co-authors: CZAJKA, Alina (National Centre for Nuclear Research); CARRINGTON, Margaret

Presenter: MROWCZYNSKI, Stanislaw (National Centre for Nuclear Research, Warsaw, Poland)

Session Classification: Plenary session