



Contribution ID: 759

Type: Poster

Impact of the initial stages on the medium-induced radiation spectrum

Wednesday, 6 April 2022 18:50 (4 minutes)

Recently, we developed a framework to evaluate the single-inclusive gluon emission spectrum without further assumptions, including full resummation of multiple scatterings. In this talk, we compare this formalism with well-known analytical approximations, determining in that way their validity in all kinematical regions and showing to what extent accounting for multiple scatterings is crucial to properly describe in-medium gluon emissions. We then obtain the radiation spectrum when the medium is produced with a time delay with respect to the hard process in which the probe was originated. We analyze the impact on phenomenological studies of the extra medium-induced radiation due to the propagation of the hard parton before the formation of the medium. This kind of analysis becomes imperative given the recently proven sensitivity of some jet quenching observables to the initial stages after the collision.

Primary author: GONZALEZ MARTINEZ, MARCOS (IGFAE - Universidade de Santiago de Compostela (ES))

Co-authors: SALGADO LOPEZ, Carlos Alberto (Instituto Galego de Física de Altas Enerxías (USC)); ANDRES, Carlota (Ecole Polytechnique, CPHT); DOMINGUEZ, Fabio; APOLINARIO, Liliana (LIP (PT))

Presenter: GONZALEZ MARTINEZ, MARCOS (IGFAE - Universidade de Santiago de Compostela (ES))

Session Classification: Poster Session 2 T04_1

Track Classification: Jets, high-pT hadrons, and medium response