Contribution ID: **259** Type: **Oral Presentation**

Full solution of the medium-induced radiation spectrum

Monday, June 1, 2020 12:00 PM (20 minutes)

New measurements of jet quenching observables at RHIC and at the LHC, such as jet substructure observables, demand an increased precision in the theory calculations describing medium-induced radiation of gluons. Closed expressions for the gluon spectrum including a full resummation of multiple scatterings have been known for the past 20 years, but have only been evaluated in specific limits either taking a few terms in an opacity expansion or by employing a gaussian approximation for the interaction potential — which misses important physical effects. We present here a new flexible method to compute the full spectrum for a realistic interaction potential, thus allowing us for the first time to properly quantify the effect of the all-order resummation of multiple scatterings. This new approach paves the way for precision phenomenological studies including multiple scattering effects such as coherence phenomena.

Collaboration (if applicable)

Track

Jets and High Momentum Hadrons

Contribution type

Contributed Talk

Primary authors: DOMINGUEZ, Fabio (Universidade de Santiago de Compostela); ANDRES, Carlota (Jefferson Lab); APOLINARIO, Liliana (LIP (PT))

Presenter: ANDRES, Carlota (Jefferson Lab)

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