Contribution ID: **34** Type: **Parallel Talk**

Multipartonic cascades in expanding media

Thursday, 7 July 2022 11:50 (15 minutes)

In this work, we introduce both gluon and quark degrees of freedom for describing the partonic cascades inside the medium. We present numerical solutions for the set of coupled evolution equations with splitting kernels calculated for the static, exponential and Bjorken expanding media to arrive at medium-modified parton spectra for quark and gluon initiated jets respectively. We discuss novel scaling features of the partonic spectra between different types of media. Next, we study the inclusive jet by including phenomenologically driven combinations of quark and gluon fractions inside a jet. In addition, we have also studied the effect of the nPDF as well as vacuum like emissions on the jet . Differences among the estimated values of quenching parameter for different types of medium expansions are noted. Next, the impact of the expansion of the medium on the rapidity dependence of the jet as well as jet v_2 are studied in detail. Finally, we present qualitative results comparing the sensitivity of the time for the onset of the quenching for the Bjorken profile on these observables. All the quantities calculated are compared with the recent ATLAS data.

In-person participation

Yes

Primary authors: SALGADO, Carlos (Roma Univ. La Sapienza); SPOUSTA, Martin (Charles University in Prague); ADHYA, Souvik; TYWONIUK, Konrad (Lund University)

Presenter: ADHYA, Souvik

Session Classification: Heavy Ions

Track Classification: Heavy Ions