



Contribution ID: 514

Type: **Parallel session talk**

Multi-partonic medium induced cascades in expanding media

Monday 26 July 2021 15:15 (15 minutes)

Going beyond the simplified gluonic cascades, we have introduced both gluon and quark degrees of freedom for partonic cascades inside the medium. We then solve the set of coupled evolution equations numerically with splitting kernels calculated for exponential and Bjorken expanding media to arrive at medium-modified parton spectra for quark and gluon initiated jets respectively. Firstly, we have studied the inclusive jet R_{AA} by including phenomenologically driven combinations of quark and gluon fractions inside a jet. The impact of the rapidity dependence of the jet R_{AA} has been studied in detail. Secondly, we have studied the path-length dependence of jet quenching for different types of expanding media by calculating the jet v_2 . Additionally, we have qualitatively studied the sensitivity of the time for the onset of the quenching for the Bjorken profile on jet v_2 and comparison with data from ATLAS.

First author

Souvik Priyam Adhya

Email

souvikadhya2007@gmail.com

Collaboration / Activity

None

Primary author: ADHYA, Souvik Priyam (Institute of Particle and Nuclear Physics, Faculty of Mathematics and Physics, Charles University)

Co-authors: Prof. SALGADO, Carlos (Instituto Galego de Física de Altas Enerxías IGFAE, Universidade de Santiago de Compostela); Dr SPOUSTA, Martin (Institute of Particle and Nuclear Physics, Faculty of Mathematics and Physics, Charles University); Dr TYWONIUK, Konrad (Department of Physics and Technology, University of Bergen)

Presenter: ADHYA, Souvik Priyam (Institute of Particle and Nuclear Physics, Faculty of Mathematics and Physics, Charles University)

Session Classification: T05: Heavy Ion Physics

Track Classification: Heavy Ion Physics