

Strangeness in Quark Matter 2019



Contribution ID: 135

Type: **Contributed talk**

Dynamical energy loss: exploring the QGP with high pt theory and data

Tuesday 11 June 2019 14:00 (20 minutes)

We will present our newly developed DREENA framework - a numerical implementation of our dynamical energy loss formalism that allows generating predictions for a wide range of high pt observables, centralities, collision energies, different experiments and collision systems. To demonstrate its utility, we will first show that our postdictions agree well with a wide range of available high pt experimental data. Furthermore, the predictions, which were published well before the data became available, also agree with the data, and moreover explain some of the experimentally observed, but intuitively unexpected suppression patterns. This gives us a confidence that our method realistically describes parton-medium interactions in QGP. Based on this, we also propose new observables [2,3], which allow clearly distinguishing between different energy loss mechanisms, as well extracting some of QGP bulk properties from high pt experimental data. The first steps in our work towards the application of this model as a novel high-precision tomographic tool of QGP medium, will also be discussed.

[1] D. Zigic, I. Salom, M. Djordjevic and M. Djordjevic, Phys. Lett. B (in press, 2019).

[2] M. Djordjevic, D. Zigic, M. Djordjevic and J. Auvinen, arXiv:1805.04030 [nucl-th].

[3] M. Djordjevic, S. Stojku, M. Djordjevic, P. Huovinen, in preparation.

Collaboration name

Track

Heavy Flavour

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Session Classification: Heavy Flavour