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Jet quenching in evolving anisotropic matter

Over the last decades, the theoretical picture of how hadronic jets interact with nuclear matter has been extended to account for the medium's finite longitudinal length and expansion. However, only recently a first-principle approach has been developed that allows to couple the jet evolution to the medium flow and anisotropic structure in the dilute limit. In this talk, we will show how to extend this approach to the dense regime, where the resummation of multiple in-medium scatterings is necessary. Particularly, we will consider the modifications of the single particle momentum broadening distribution and single gluon production rate in evolving matter. The resummation is performed by either computing the opacity series or starting from the all order BDMPS-Z formalism. We will also discuss the (novel) resulting modifications to jets' substructure.

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