Beitrag ID: **181**   Typ: **Poster**

Exploring the impact of jet substructure observables on the Bayesian inference of medium properties

Dienstag, 28. März 2023 18:15 (2 Stunden)

Bayesian inference provides a powerful approach to constrain jet quenching model parameters using experimental measurements. It remains an open question, however, which jet observables provide complementary information in this approach, and in turn which observables the community should focus on measuring and calculating. In this talk we report a first, exploratory study which incorporates jet substructure observables in a Bayesian inference analysis of jet quenching, based on the JETSCAPE framework. We examine the additional information that jet substructure observables provide beyond that contained in inclusive jet and hadron suppression observables. We discuss the implications of these findings on the future experimental and theoretical jet quenching programs, including both opportunities and limitations offered by jet substructure observables.

Experiment/Theory

Theory/Phenomenology

Affiliation

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Sitzung Einordnung: Poster Session

Track Klassifizierung: Jets and their modification in QCD matter