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Typ: Talk

Hybrid Hadronization of Jet Showers from $e+e-$ to AA with JETSCAPE

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In this talk we review jet production in a large variety of collision systems using the JETSCAPE event generator and Hybrid Hadronization. Hybrid Hadronization combines quark recombination, applicable when distances between partons in phase space are small, and string fragmentation appropriate for dilute parton systems. It can therefore smoothly describe the transition from very dilute parton systems like $e+e-$ to full AA collisions. We test this picture by using JETSCAPE to generate jets in various systems. Comparison to experimental data in $e+e-$ and pp collisions allows for a precise tuning of vacuum baseline parameters in JETSCAPE and Hybrid Hadronization. Proceeding to systems with jets embedded in a medium, we study in-medium hadronization for jet showers. We quantify the effects of an ambient medium, focusing in particular on the dependence on the collective flow and size of the medium. Our results clarify the effects we expect from in-medium hadronization of jets on observables like fragmentation functions, hadron chemistry and jet shape.

Experiment/Theory

Theory/Phenomenology

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Track Klassifizierung: Jets and their modification in QCD matter