

11th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



Beitrag ID: 115

Typ: Talk

Recoil-free jet observable in heavy ion collisions

Dienstag, 28. März 2023 11:30 (20 Minuten)

We will discuss the use of recoil-free jet observables to systematically benchmark jet modification studies with precision and sensitivity, starting from the hardest components of jets. Here we focus on the recoil-free jet axis in defining di-jet and photon-jet angular decorrelation. This observable is not affected by the huge underlying event background and can be calculated and measured precisely. Also, since the recoil-free axis follows the dominant energy flow within jet, it is sensitive to any partonic energy loss mechanism which can deflect the axis direction. We will present Monte Carlo studies based on simulations with different jet quenching models. Future measurements of this observable will allow us to test the onset of jet quenching in the whole jet evolution history. This paves a path towards precision heavy ion jet modification studies using recoil-free observables.

Experiment/Theory

Theory/Phenomenology

Affiliation

Georgia State University
University of Amsterdam
Fudan University
Universidade de Santiago de Compostela
Manchester University

Hauptautoren: CHIEN, Yang-Ting (Georgia State University); WAALEWIJIN, Wouter (University of Amsterdam); SHAO, Dingyu (Fudan University); WU, Bin (Universidade de Santiago de Compostela); RAHN, Rudi (Manchester University)

Vortragende(r): WU, Bin (Universidade de Santiago de Compostela)

Sitzung Einordnung: Parallel: Jets and their modification in QCD Matter

Track Klassifizierung: Jets and their modification in QCD matter