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JEWEL and jet substructure in any collision system

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Understanding the apparent absence of the modification of high- p_T partons in small colliding systems has become critical. A major avenue of investigation that remains largely unexplored is the identification of observables that are experimentally more robust in small colliding systems than the traditional R_{AA} . In recent years the study of jet substructure observables in heavy-ion collisions has accelerated and we now have at our disposal several promising observables that merit investigation in small systems. In order to facilitate the process of comparing analytically viable observables with existing and future experimental results, we have developed a plugin for JEWEL (Jet Evolution With Energy Loss) that allows the user to pass hydrodynamic profiles from any collision system to JEWEL. Code suitable for use with (2+1)D temperature and fluid velocity profiles, fully compatible with the newest available version of JEWEL will be made available publicly, as well as simple RIVET analyses. We briefly detail the particularly careful treatment of the local fluid velocity, and present several jet substructure observables in a variety of collision systems.

Experiment/Theory

Theory/Phenomenology

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Track Klassifizierung: Jets and their modification in QCD matter