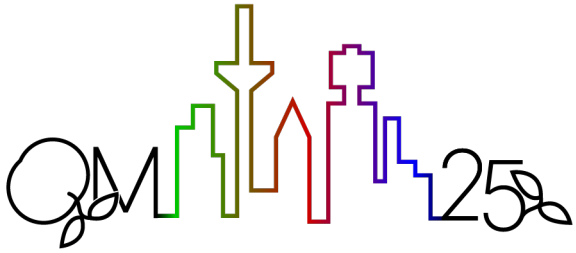

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A system size scan of Jet Substructure with JEWEL

The simultaneous description of jet observables such as the nuclear modification factor R_{AA} and elliptic flow v_2 as a function of transverse momentum is a challenge both in large and small colliding systems. For large systems there is the complication of the hydrodynamic background and response, whereas in small systems so far no measurable jet quenching could be identified. This motivates the development of a versatile framework that combines state-of-the-art jet quenching and hydrodynamic models together with a sophisticated analysis framework including background subtraction. In this work we present a combined *Trajectum*, JEWEL and Rivet analysis for ^{16}O^{16}O, ^{20}Ne^{20}Ne and PbPb, including event-shape-engineering, an analysis of the influence of the hydrodynamic fluid velocities and diverse jet substructure observables. Our results reveal that jet substructure observables are sensitive to both event-by-event fluctuations and the underlying flow of the medium. The full analysis and plugin (also compatible with the MUSIC code), designed for ease of use, is publicly accessible and extends the versatility of JEWEL for jet-quenching studies.

Category

Theory

Collaboration (if applicable)

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