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# Measurements of jet momentum profile and generalized angularities in Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV at STAR

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Jets are produced in early stages of heavy-ion collisions and undergo modified showering in the quark-gluon plasma (QGP) medium relative to a vacuum case. These modifications can be measured using observables like jet momentum profile and generalized angularities to study the details of jet-medium interactions. Jet momentum profile ( $\rho(r)$ ) encodes radially differential information about jet broadening and has shown migration of charged energy towards the jet-periphery in Pb+Pb collisions at the LHC. Measurements of generalized angularities (girth  $g$  and momentum dispersion  $p_T^D$ ) and LeSub (difference between leading and subleading constituents) from Pb+Pb collisions at the LHC show harder, or more quark-like jet fragmentation, in the presence of the medium. Measuring these distributions in heavy-ion collisions at RHIC will help us further characterize the jet-medium interactions in a phase-space region complimentary to that of the LHC.

In this talk, we present the first measurements of fully corrected  $\rho(r)$ ,  $g$ ,  $p_T^D$  and LeSub observables using hard-core jets (jets constructed using constituents with  $p_T > 2$  GeV/c to suppress the combinatorial background) in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV, collected by the STAR experiment at RHIC. Medium modifications are assessed by calculating nuclear modification factors relative to the  $p + p$  baseline. Finally, data are compared with model calculations and the physics implications are discussed.

## Category

Experiment

## Collaboration (if applicable)

STAR Collaboration

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