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Di-jet Hadron Correlations In Central Au+Au Collisions at $\sqrt{s_{NN}} = 200$ GeV at STAR

Jets and their modifications due to partonic energy loss provide a powerful tool to study the properties of the QGP created in
ultrarelativistic heavy-ion collisions. For anti-k_t jets with a resolution parameter $R = 0.4$, previous measurements of the di-jet asymmetry A_J at STAR [1] indicate that the observed imbalance of an initial "hard-core" di-jet selection with $\mathrm{p_T^{constituent}} > 2.0$ GeV/c, $\mathrm{p_T^{leadjet}} > 20.0$ GeV/c and $\mathrm{p_T^{subjet}} > 10.0$ GeV/c is restored to the balance of the pp reference when soft constituents are included.
The lost energy is recovered in soft constituents within the jet radius.

Jet-hadron correlations with respect to the A_J di-jets allow a differential assessment of the kinematic properties of the soft gluon radiation spectrum induced by partonic energy loss in the QGP. We present charged hadron correlations with respect to the di-jets found in the above A_J analysis, and compare to similar measurements using a single-jet trigger [2] at RHIC, as well as to jet-track correlations at the LHC.

[1] L.Adamczyk *et al.* [STAR Collaboration], arXiv:1609.03878 [nucl-ex].

[2] L.Adamczyk *et al.* [STAR Collaboration], Phys. Rev. Lett. 112, 122301 (2014).

Preferred Track

Jets and High pT Hadrons

Collaboration

STAR

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