Measuring the groomed shared momentum fraction (z_{g}) in Au+Au collisions at $\sqrt{s_{\mathrm{NN}}} = 200$ GeV at STAR using a semi-inclusive approach

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Jet quenching is one of the main signals used to investigate the properties of a quark-gluon plasma (QGP). Besides energy loss, jet quenching can also manifest in the modification of jet substructure. This work focuses on measuring the substructure observable z_{g}, a result of SoftDrop grooming, which probes the physics of the first hard splitting of a hard-scattered parton. This analysis employs a semi-inclusive approach, selecting candidate jets found within the recoil region of a high transverse momentum trigger particle. Requiring a high transverse momentum trigger object induces a surface bias on the event selection, potentially causing selected candidate jets in the recoil region to be biased towards having a longer path length within the medium. Consequently, these jets are expected to be more quenched and thus are good candidates to probe for modification of z_{g} at RHIC energies. In this analysis contribution from combinatorial jets, arising from the large fluctuating background in heavy-ion collisions, is subtracted from the signal at the ensemble level, using a mixed events technique. In this talk we will present the techniques used and the current preliminary results of z_{g} in Au+Au collisions at $\sqrt{s_{\mathrm{NN}}} = 200$ GeV.