

Title: Efficiency corrections using Monte Carlo simulations for in-jet analysis at STAR.

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Jet measurements from p+p collisions are a common tool to study the density of quarks and gluons inside of the proton. The Solenoidal Tracker at RHIC (STAR), with the use of its Time Projection Chamber (TPC), electromagnetic calorimeter, and Time Of Flight (TOF) detector, can not only measure the jets themselves, but also the properties of the hadrons inside of jets. STAR is using these detectors to perform pion-in-jet analyses to better understand quark and gluon fragmentation. Analyses like these, involving simultaneous measurements of dozens of charged particles, require careful handling of detector inefficiencies. To account for these inefficiencies STAR uses Monte Carlo simulations of p+p collisions and the response of the STAR detector. These simulations can be analyzed to estimate the efficiency of the STAR detector, e.g. by comparing what is reconstructed to what was originally simulated. These corrections can then be applied to the data to give the best estimate of the true information from the collision. This poster will present a status of Monte Carlo simulations using PYTHIA and GEANT and discuss the potential next steps in the analysis.