Assessing performance of the STAR detector during the 2017 510 GeV proton-proton run

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Over the past 20 years, the Solenoidal Tracker at RHIC (STAR) at Brookhaven National Laboratory has been a leading experiment in investigating the complex spin structure of protons through high energy collisions of proton beams, for example, using distributions of pions in jets to probe transversity. In 2017, STAR collected a high-statistics dataset from transversely polarized proton-proton collisions at the center-of-mass energy of 510 GeV. An important first step in the analysis of the 2017 data is assessing the quality of the data, in particular, through studying the stability of several sub-systems throughout the duration of the RHIC run. By tracking detector-level information for each run, STAR can identify a list of high-quality runs for physics analyses. This presentation will show a selection of detector-level stability plots relevant for future analyses of pions in jets, e.g., energy deposition in towers of the electromagnetic calorimeter, momenta of charged-particle tracks from the time projection chamber, and particle-identification information measured in the time-of-flight detector.