

First STAR results on π^0 production over an extended p_T range from 200 GeV Au+Au collisions

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We present the first STAR results for high p_T π^0 spectra and the nuclear modification factor in mid-rapidity in 200 GeV Au+Au collisions, using the large run-4 data sample. Two methods are used to reconstruct π^0 s over a larger p_T -range (approx 1-12 GeV): 1. pairing two photons measured by the Barrel Electromagnetic Calorimeter (BEMC); 2. pairing one photon converting in the material inside the Time Projection Chamber (TPC) and the other one from the BEMC. Conversion photons are reconstructed from using TPC e^-/e^+ tracks. The clean sample of conversion photons gives a clear π^0 signal from below 1 GeV up to intermediate p_T , where backgrounds in the BEMC are large. Results from both methods are compared in the overlapping p_T -range and compared with previous pion measurements. The prospects for this analysis in the larger run-7 data sample with full BEMC coverage and a higher BEMC trigger threshold is discussed. This analysis is a first step towards direct photon spectra measurements in Au+Au collisions.