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Simulations to Understand the Calibration of the PHENIX Muon Piston Calorimter STEVEN MOTSCHWILLER, PHENIX COLLABORATION — In 2007, the Relativistic Heavy Ion Collider (RHIC) generated $sqrts_{NN} = 200$ GeV Au + Au collisions. The PHENIX Muon Piston Calorimeter will allow a measurement of transverse energy in the forward/backward region ($3.1< |\eta| <3.8$) but first the detector must be calibrated in this high occupancy environment. In order to understand the steps that must be taken with the real data, a simulated set of π^0s were generated and allowed to decay. Same event photon pairs and mixed event photon pairs were used to generate histograms with signals plus combinatoric background, and histograms with only combinatoric background. Normalization of the background histogram and subtraction from the histogram with the signal recovered the original sample of pions. Having accomplished this, identical steps were performed on the real data.

Steven Motschwiller

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