

Abstract Submitted  
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**Single Cluster  $\pi^0$  Reconstruction at High Energy Using the MPC-EX Detector at RHIC-PHENIX**<sup>1</sup> JOHN WHITE, Augustana University, PHENIX COLLABORATION — Most photons produced in collisions at the Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory (BNL) originate from the decay of  $\pi^0$  mesons. The Pioneering High Energy Nuclear Interaction eXperiment (PHENIX) is a versatile detector and it is capable of detecting photons with energy  $\lesssim 40$  GeV at forward rapidity using the Muon Piston Calorimeter (MPC). At these high energies the photons decay with such a small opening angle that the MPC cannot resolve the two photons, but the two photons can be still be disambiguated in the MPC-Extension (MPC-EX), a Si-W preshower detector. An algorithm that detects the photon peaks and calculates their opening angle has been developed. Using knowledge of the opening angle, total energy of the shower and asymmetry, it is possible to reconstruct the mass of the  $\pi^0$ . We will show the current state of the high energy  $\pi^0$  analysis in d+Au collisions.

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