

Abstract Submitted
for the MAS14 Meeting of
The American Physical Society

The PHENIX Muon Piston Calorimeter Extension (MPE-EX) at RHIC¹ DHRUV DIXIT, FERNANDO TORALES-ACOSTA, State Univ of NY-Stony Brook — The Muon Piston Calorimeter Extension(MPC-EX) is a Silicon(SI)-Tungsten(W) preshower detector that will be installed as an extension to the current PHENIX Muon Piston Calorimeter(MPC). The extension consists of eight alternating layers of Si minipad sensors and W absorbers. The Si-W layers allow the identification and reconstruction of the π^0 meson out to energies greater than 80 GeV. The MPC-EX will uniquely enable us to measure phenomena related to both low momentum partons in the target nucleus and the high momentum partons in the projectile nucleus. Run-15 collision will be a proton and heavy ion collision. The MPC-EX will help distinguish between the direct photons, that result when a valence quark in the projectile scatters off a gluon in the target nucleus, and decay photons that result from π^0 decay. The measurements at momentum fraction of 10^{-3} order of magnitude will provide high statistics data that can be used to understand the gluon saturation at low momentum in the nuclei. The test beam data from the Stanford Linear Accelerator Center test shows that the MPC-EX causes an EM shower prior to reaching the MPC. The data also demonstrates the MPC-EX's ability to distinguish between double and single EM showers, allowing for π^0 reconstruction.

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Date submitted: 28 Aug 2014

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