

Abstract Submitted
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The PHENIX Muon Piston Calorimeter Extension (MPE-EX) at RHIC¹ DHRUV DIXIT, WILLIAM ROH, FERNANDO TORALES-ACOSTA, State Univ of NY- Stony Brook, PHENIX COLLABORATION — The Muon Piston Calorimeter Extension (MPC-EX) is a Silicon(SI) -Tungsten(W) preshower detector that is 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, which allow identification and reconstruction of π^0 mesons out to energies > 80 GeV. The MPC-EX will uniquely enable us to measure phenomena related to low momentum partons in the target nucleus and the high momentum partons in the projectile nucleus. Currently, the MPC-EX is taking data in the RHIC Run-15. Run-15 is a p+A collision, where p is a proton and A is a heavy ion. 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 π^0 decay photons. 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 shows that the MPC-EX causes an EM shower prior to reaching the MPC. The data demonstrates the MPC-EX's ability to distinguish between double and single EM showers, allowing for π^0 reconstruction.

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