

PHENIX MPC-EX Detector Performance in Run 16

The PHENIX Muon Piston Calorimeter Extension (MPC-EX) is a Si-W pre-shower detector positioned at forward rapidity ($3.1 < |\eta| < 3.8$) in front of the already existing MPC. It is a combined charged particle tracker and EM preshower detector with the readout signal of each Si minipad (1.8 x 15 mm) split into high and low gain to provide sensitivity from MIPs up to full energy EM showers. The physics goal for the MPC-EX in Run 16 is to study the gluon distribution at low-x in 200 GeV d+Au running. A firmware update in Run 16 provided stable readout and improved live area of the detector. The MPC-EX was timed in with PHENIX during 200 GeV Au+Au, then later confirmed in 200 GeV d+Au. Pedestals were checked weekly and used to set the zero-suppression thresholds. The leakage current and temperature were monitored and bias voltage was changed if needed. This poster will detail the setup and performance of the MPC-EX detector in Run-16 and the impact of improvements between Run-15 and Run-16 on physics performance.

Preferred Track

Future Experimental Facilities, Upgrades, and Instrumentation

Collaboration

PHENIX

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