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Studying Cold Nuclear Matter with the MPC-EX of PHENIX

NATHAN GRAU, Augustana University, PHENIX COLLABORATION — Highly asymmetric collision systems, such as $d+Au$, provide a unique environment to study cold nuclear matter. Potential measurements range from pinning down the modification of the nuclear wave function, i.e. saturation, to studying final state interactions, i.e. energy loss. The PHENIX experiment has enhanced the muon piston calorimeter (MPC) with a silicon-tungsten preshower, the MPC-EX. With its fine segmentation the MPC-EX extends the photon detection capability at $3 < |\eta| < 3.8$. In this talk we review the current status of the detector, its calibration, and its identification capabilities using the 2016 $d+Au$ dataset. We also discuss the specific physics observables the MPC-EX can measure.

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