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Study of the influence of neutral pion decay on the inflow and outflow of energy from the PHENIX Muon Piston Calorimeter[1] JULIAN RUTKOWSKI, Muhlenberg College, PHENIX COLLABORATION — The PHENIX MPC is a homogeneous electromagnetic calorimeter covering a pseudorapidity range of $3.1 < |\eta| < 3.9$. Transverse energy measurements with this detector must be corrected for situations in which one or both photons from neutral pion decay either miss the detector when the parent would have hit or hit the detector when the parent would have missed. This effect forms the major component of inflow/outflow corrections to measurements of transverse energy with the detector. The kinematics of these processes are studied in the UrQMD (Ultra-Relativistic Quantum Molecular Dynamics) event generator in order to understand how the geometric acceptance of the MPC will affect the measurement of transverse energy in ultra-relativistic heavy ion collisions at RHIC.

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