

Abstract Submitted  
for the OSS15 Meeting of  
The American Physical Society

**Methods for Determining Elliptic Flow of Isolated Photons and  $\pi_0$ 's** TYLER DANLEY<sup>1</sup>, Ohio University, PHENIX COLLABORATION — We present methods for measurements of second order flow coefficients and derivations of reaction plane dependent efficiencies of isolated photons and  $\pi^0$ 's in relativistic heavy ion collisions. The method involves isolation cuts similar to those used in direct photon identification where the energy is summed inside an angular cone and cut if greater than a threshold energy. We show that this will result in a reaction plane dependent efficiency. We derive and verify azimuthal single and two particle correlation functions, including this efficiency, up to harmonic second order. We show that the standard  $v_2$  extraction method is only sensitive to an effective  $v_2$ , which includes the sum of true  $v_2$  and the  $v_2$  of the isolation efficiency, which is generally negative. We will also present the status of applying these methods to PHENIX  $\sqrt{s_{NN}} = 200\text{GeV}$  Au+Au data.

<sup>1</sup>for the PHENIX collaboration

Tyler Danley  
Ohio University

Date submitted: 04 Mar 2015

Electronic form version 1.4