

Abstract Submitted  
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**High pT gamma/pi-zero ratios in Au+Au collisions at sqrt(sNN) = 200 GeV**<sup>1</sup> ANANYA PAUL, Stony Brook University, PHENIX COLLABORATION — Photons, being color neutral can traverse unscathed through any colored matter hence serving as an excellent penetrating probe. The sources of real photons in heavy ion collisions are mainly direct photons and decay photons coming from electromagnetic decays of  $\rho$ ,  $\eta$ . High transverse momentum direct photons ( $>4-5$ ) come almost exclusively from initial hard parton scattering. Extracting the direct photon yield  $\gamma_{dir}()$  from the inclusive  $\gamma_{inc}()$  yield can be done using different techniques, all quite involved. Our aim is to characterize high direct photon production and its dependence on collision centrality in a simpler way, using the inclusive  $\gamma_{inc}()/()$  ratio. It is well known, that at moderate and high the ratio of decay  $\gamma_{dec}$  to is constant  $\star$ .<sup>2</sup> Since  $\gamma_{inc} = \gamma_{dir} + \gamma_{dec}$ , and most  $\gamma_{dec}$  comes from  $\rho$ , deviations of the ratio from a constant at higher will be a measure of direct photon production. In this talk we will present the status of the analysis of centrality dependent  $\gamma_{inc}()/()$  ratios in  $\sqrt{s_{NN}} = 200$  GeV collisions based on PHENIX data taken in 2014.

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<sup>2</sup>R.M. Sternheimer, Phys. Rev. 99, 1, 1955

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