

Abstract Submitted  
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**High pt pi0 measurements in pp collisions at mid-rapidity with PHENIX detector at RHIC** ALEXANDER BAZILEVSKY, Brookhaven National Laboratory, PHENIX COLLABORATION — Hadron production at large transverse momenta in pp collisions provides an important testing ground for QCD and helps to constrain fragmentation mechanism. PHENIX has reported pi0 cross section in pp collisions in the pt range 1-13 GeV/c, which is described well by NLO pQCD calculations [1]. In heavy ion collisions, high pt particle production allows us to study the modification of hard scattering processes in high-density medium. Extending the measured pt range is crucial in understanding medium-induced energy loss mechanism. We discuss technique to measure high pt pi0s based on PHENIX capability of triggering on high pt photons. At pi0 pt more than  $\sim 15$  GeV/c two decay photons start merging in the EMCal. Finely granulated EMCal allows us to extend the pi0 measurements to  $pt > 25$  GeV/c using detailed shower profile analysis to discriminate between single and merged photons. We will present pi0 spectrum up to  $\sim 25$  GeV/c measured in Run 2005 pp collisions and comparison to NLO pQCD calculations.

[1] S.S. Adler et al., Phys. Rev. Lett. 91, 241803 (2003).

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