

Abstract Submitted
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Direct photon measurement via internal conversions in Cu+Cu collisions at $\sqrt{s_{NN}} = 200$ GeV in PHENIX DAISUKE WATANABE, Hiroshima University, PHENIX COLLABORATION — The measurement of direct photons on hot and dense matter created in heavy ion collisions can provide thermodynamic information, but their measurement in the low p_T region is very challenging due to large hadronic background. However, internal conversion method allows access to low and intermediate p_T direct photons. In an earlier measurement in Au+Au collisions, direct photon invariant yield was obtained in the pair mass region $M_{ee} < 300 MeV/c^2$ for transverse momentum $1 < p_T < 5 GeV/c$. In the case of Au+Au central collisions, direct photon p_T spectra have been fitted to an exponential with inverse slope parameter $T = 221 \pm 23(stat) \pm 18(syst) MeV$, which is higher than critical temperature $T_c = 170 MeV$ predicted by Lattice QCD [1]. Therefore, it is interesting to also measure direct photons and the temperature of hot and dense matter created in Cu+Cu collisions, a smaller system that might be expected to reach a lower temperature. The latest status of the measurement is reported.

[1] K.Adcox et al., Nucl.Phys. A757,184 (2005)

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