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Centrality and p_T dependence study of Dielectron Production in $\sqrt{s_{NN}}$=200 GeV Au+Au collisions at STAR YI GUO, USTC/BNL, STAR COLLABORATION — Dilepton production has been proposed as a penetrating probe for the hot and dense nuclear systems created in high-energy nuclear collisions. Due to their relatively weak final-state interaction, dileptons escape the interaction region undistorted. Since dileptons originate from all stages of a heavy ion reaction, their sources vary with the kinematic phase space under consideration: the low mass region (LMR: mass<1.1GeV/c^2),the intermediate mass region (IMR: 1.1<mass<3GeV/c^2) and the high mass region (HMR: mass>3GeV/c^2). According to the time-energy correlation, the dilepton distributions, especially in the IMR and HMR, provide information on early collision dynamics in heavy ion collisions. We will present a systematic study of dielectron production in $\sqrt{s_{NN}}$=200GeV Au+Au collisions taken by STAR experiment in the year 2011. The dataset involves nearly 750 million Au+Au minimum bias events which is about a factor of two compared to that collected in year 2010. The dielectron pair transverse momentum and centrality dependence of the delectron invariant mass distribution will be discussed. The results will be compared to hadron decay cocktails as well as theoretical calculations on vector meson in-medium modifications and the QGP thermal radiation.

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