

Direct-photon production in heavy ion collisions at RHIC

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Direct photons are emitted throughout the development of a relativistic heavy ion collisions; their observation, therefore, provides a snapshot of the evolution of the collisions. This talk will present the latest results of the PHENIX experiment at RHIC obtained from high statistics Au+Au data set taken at 200 GeV. The results expand earlier measurements and isolate the non-prompt direct photon component. The data show high yields that exhibit a power-law scaling behavior with system size with no apparent dependence on transverse momentum (p_t). In contrast the inverse slope of the p_t spectra varies from 250 MeV at 1 GeV/c to close to 400 MeV by 3 GeV/c. Direct photons also exhibit a strong anisotropy with respect to the reaction plane for p_t of upto 5 GeV/c. These features are qualitative consistent with calculations of thermal radiation from the collision but reconciling them quantitatively remains a challenge.

Alternate track

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