



XLVII International Symposium on
Multiparticle Dynamics (ISMD2017)

September 11-15, 2017, Tlaxcala City, Mexico

Contribution ID : 1

Type : **not specified**

Photon production induced by magnetic field in HICs: photon yield and elliptic flow.

Monday, 11 September 2017 12:15 (0:25)

Content

In this talk, we present the results of photon production at early times in semi-central relativistic heavy-ion collisions from non-equilibrium gluon fusion induced by a magnetic field. The calculation accounts for the main features of the collision at these early times, namely, the intense magnetic field and the high gluon occupation number. The photon yield from this process is an excess over calculations without magnetic field effects. We compare this excess to the difference between PHENIX data and recent hydrodynamic calculations for the photon transverse momentum distribution and elliptic flow coefficient v_2 . We show that with reasonable values for the saturation scale and magnetic field strength, the calculation helps to better describe the experimental results obtained at RHIC energies for the lowest part of the transverse photon momentum.

Session

Perturbative and nonperturbative QCD

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Session Classification : Perturbative and nonperturbative features of QCD (I)