

photons in hot dense matter

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High energy photons have been measured in heavy ion collisions, at both RHIC and LHC. The direct photons, not from decay, carries a special information of the expanding system. This is studied with (3+1)-dimensional ideal hydrodynamics, constrained with a large collection of data of various hadrons. Thus a comparison between a realistic calculation and the photon data from both RHIC and LHC will be presented and shows how the expanding hot dense matter are shining. The new information we obtained may be useful for the astrophysics, for example, for the search of dark matter.

Ref. 1) F.M. Liu, K.Werner, Phys.Rev.Lett.106,242301 (2011).

2) F.M.Liu, S.X.Liu, Phys.Rev.C89,034906 (2014).

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