

PHENIX measurements of low momentum direct photons from large ion collisions as a function of beam energy and system size

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PHENIX has discovered a large yield of low momentum direct photons emitted with large azimuthal anisotropy in 200 GeV Au+Au collisions. The large yield suggests early emission at high temperature, while the large anisotropy points towards late emission when the radial flow of the matter is fully developed, but the temperature is already reduced. This apparent contradiction poses a significant challenge to models that aim to calculate thermal photon production. To further constrain the sources of the low p_t photons, PHENIX is analyzing data from Au+Au collisions at lower beam energies of 39 and 62.4 GeV, as well as data from smaller collisions systems Cu+Cu and Cu+Au at 200 GeV. First results from these analyses and from a larger statistics sample of Au+Au at 200 GeV will be presented.

Preferred Track

Electromagnetic Probes

Collaboration

PHENIX

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