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PHENIX measurement of the high pT direct photon production in p+A collisions and its implication to the initial state of the system

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High transverse momentum direct photons are penetrating probes in relativistic heavy ion collisions. Once produced, they leave the collision region virtually unaffected, even if a hot, dense partonic medium was formed. This is also the reason why direct photons are immune to the suppression observed for high pT hadrons and jets in heavy ion collisions, but can probe the initial state effects. The nuclear modification factor of high pT photons has been found consistent with unity in Au+Au collisions. It is of interest whether this applies to not only for p+p and A+A but also for p+A collisions, especially the most central collisions. Comparing the centrality dependence of direct photon and hadron production in p+Au system will provide a test of the applicability of the Glauber model in such systems which has indeed been an interesting question. The talk will present the first measurement of high pT photons in this asymmetric collision system.

Collaboration (if applicable)

PHENIX

Track

Electroweak Probes

Contribution type

Contributed Talk

Primary author: DAVID, Gabor (Brookhaven National Laboratory)

Presenter: RAMASUBRAMANIAN, Niveditha (Stony Brook University)

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