



Contribution ID: 341

Type: Poster

## Thermal Photons in Heavy Ion Collisions at RHIC

*Thursday 16 August 2012 16:00 (2 hours)*

The hot and dense fireball produced in high energy heavy ion collisions, such as that at RHIC, exhibits complicated dynamics and time evolution. Thermal photons have a negligible cross-section with the medium and so pass through unmodified, thus measuring their properties gives access to the entire time evolution of the fireball. Thermal photons are expected to be observable at low momentum. They compete in yield with photons from hadron decays and, at high momentum (above roughly 4 GeV), direct photons that result from initial hard scatterings of partons in the colliding nuclei. PHENIX has measured the yield of direct photons in Au+Au collisions, as well as the baseline measurements in p+p and d+Au. Recently PHENIX has also measured elliptic flow of direct photons. The latest results on low momentum direct photons will be discussed, including measurements of real photons using photon conversions and a novel method to reduce systematic uncertainties.

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**Session Classification:** Poster Session Reception

**Track Classification:** Electroweak probes