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First results from the Photon Multiplicity Detector at forward rapidities in AuAu collision at $\sqrt{s_{nn}} = 39\text{GeV}$

Content :

Photons are produced at all stages of the system created in a heavy ion collision, both directly and through decay of produced particles like neutral pions. The multiplicity measurement of photons on an event-by-event basis is an important measurement complementing the charged particle measurement in a heavy ion collision.

Photon production at forward rapidity shows an energy independent longitudinal scaling as observed at $\sqrt{s_{nn}} = 62.4$ and 200 GeV [1,2]. Photon measurements at lower $\sqrt{s_{nn}}$ will be helpful in testing the longitudinal scaling at lower energies.

The Photon Multiplicity Detector in the STAR experiment at RHIC measures inclusive photons in the pseudo-rapidity region $-3.7 < \eta < -2.3$. We will present preliminary results on photon production in Au+Au collisions at $\sqrt{s_{nn}} = 39\text{GeV}$ for different event centralities.

The results of measurements at 39 GeV will be compared with data at other energies and also with models.

Collaboration :

STAR Collaboration

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