

The Electron Ion Collider User Group Meeting



Contribution ID: 49

Type: **not specified**

The Electro-Magnetic probes at EIC

Friday, 8 July 2016 16:55 (25 minutes)

The Electro-Magnetic probes have been widely used to study the fundamental properties of hot, dense medium created in heavy ion collisions. Quarkonia through dileptonic decays have been an indicator of the deconfinement while the dileptons radiated from the hot, dense medium have been used to study Chiral Symmetry Restoration, the temperature, and lifetime of the medium. I will briefly review a few interesting observables in heavy ion collisions and present a most-recent STAR result on J/ψ production through its dileptonic decay in the very low transverse momentum region ($p_T < 0.2$ GeV/c) in peripheral and mid-peripheral Au+Au collisions.

The results seem to be consistent with the coherent photon-pomeron production. However, it is unclear how these produced J/ψ are affected by the cold and hot QCD matter created in peripheral and mid-peripheral Au+Au collisions. Multiplicity and system size dependences of the very low p_T J/ψ production at EIC might further our understanding of the cold nuclear matter effect on the J/ψ production.

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Session Classification: Jets and Novel Probes (Experiment)