

Photon-jet Ridge in $p+A$ collisions at RHIC and the LHC

Wednesday, 25 May 2016 15:00 (20 minutes)

I will present the recent analysis of the photon-jet correlations in the Color Glass Condensate (CGC) framework in proton-proton and proton-nucleus collisions at RHIC and the LHC. I show that photon-jet correlations exhibit long-range in rapidity ridge-like structure at low transverse momenta of the produced jet and photon in high-multiplicity events. These features are strikingly similar to the observed ridge effect for di-hadron correlations at RHIC and the LHC. I show that photon-jet correlations at small- x kinematics probe the gluon saturation dynamics and such measurements can help to understand the true origin of the observed di-hadron ridge in $p+A$ collisions, and address whether the ridge is an universal phenomenon for all two particle correlations at high energy and high multiplicity events. I will also talk if there is a ridge-like structure for photon-hadron correlation at RHIC and the LHC, and discuss how the hadronization of jet can affect the photon-jet correlations.

Primary author: REZAEIAN, Amir (Universidad Tecnica Federico Santa Maria)

Presenter: REZAEIAN, Amir (Universidad Tecnica Federico Santa Maria)

Session Classification: Parallel