ID de Contribution: **233** Type: **Talk**

Probing a new regime of ultra-dense gluonic matter using high-energy photons with the CMS experiment

mardi 4 juin 2024 16:50 (20 minutes)

In ultraperipheral collisions (UPCs) involving relativistic heavy ions, the production of heavy-flavor coherent vector mesons through photon-nuclear interactions is a key focus due to its direct sensitivity to the nuclear gluon density. Experimental measurements, however, face a two-way ambiguity as each of the symmetric UPC nuclei can act as both a photon-emitter projectile and a target. This ambiguity hinders the separation of contributions from high- and low-energy photon-nucleus interactions, restricting our ability to probe the extremely small-\(x\) regime where nonlinear QCD effects are anticipated. The presentation will unveil the measurement of coherent heavy quarkonium photoproduction, addressing the two-way ambiguity by employing a forward neutron tagging technique in UPC PbPb collisions at 5.02 TeV. Overall these studied focus on the dominance of gluons in nuclear matter probed at higher energies.

Auteur principal: VERMA, Pranjal

Orateur: VERMA, Pranjal

Classification de Session: Track2-HF&Q

Classification de thématique: Heavy-Flavours & Quarkonia