

Seminarium Szkoły Doktorskiej NCBJ

**Thursday, 11 May, 9:15
room 207, Pasteura 7**

**<https://www.gotomeet.me/NCBJmeetings/phd-seminar>
<https://events.ncbj.gov.pl/e/PhDSeminar2223>**

Speaker:

Arantxa Tymowska (Szkoła Doktorska NCBJ)

Title:

Forward photon+jet production in pA collisions at next-to-eikonal accuracy

Abstract:

One very promising observable to study gluon saturation effects at high energy is photon+jet production at forward rapidity in proton-nucleus collisions. Since the produced photon does not rescatter on the target, this observable provides a clean environment to study the interaction of the quark probe with the dense target.

In this talk, we will present the results for the photon-quark production cross-section (as a proxy for photon+jet) at next-to-eikonal accuracy taking into account finite-width target effects, dynamics of the target and the interaction with the subleading components of the background field. Moreover, we will also discuss the link between the high-energy Color Glass Condensate (CGC) formalism and the TMD factorization for this specific process. We will argue that next-to-eikonal corrections change the pattern of photon-jet correlations.