

# DPS mechanism for associated $c\bar{c}l^+l^-$ production in $AA$ UPCs as a probe for photon density inside the nucleus

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We discuss the associated  $c\bar{c}$  and  $l^+l^-$  pairs production in ultraperipheral heavy-ion collisions at high energies. Such a channel provides a novel probe for double-parton scattering (DPS) at small  $x$  enabling one to probe the photon density inside the nucleus. We have derived an analog of the standard central  $pp$  pocket formula and studied the kinematical dependence of the effective cross section. Taking into account both elastic and non-elastic contributions, we have shown predictions for the DPS  $c\bar{c}l^+l^-$  production cross section differential in charm quark rapidity and dilepton invariant mass and rapidity for LHC and a future collider.

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