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## Double Parton Scattering in Ultrapерipheral Collisions

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Double Parton Scattering (DPS) is an important mechanism through which we can investigate the parton distributions of the proton and the nucleus. Although we know that such scatterings occur in high-energy collisions, the formalism describing them lacks answers to questions such as: Is there a universal effective cross section? To address such questions, we investigate DPS in ultraperipheral collisions (UPC), where the effective cross section is not constant, as it typically is in central collisions, as demonstrated in our results. Furthermore, when allowing the nucleus to break in an ultraperipheral proton–nucleus collision, we provide insights into the photon distribution of the nucleus. Additionally, since the effective cross section exhibits a complex dependence on the longitudinal energy fraction carried by the photon in the initial state, we evaluate cross sections involving photons and gluons in the initial state, leading to the production of quark–antiquark pairs or dilepton and quark–antiquark states in the final state.

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