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Heavy-Hadron Photoproduction in NRQCD Factorization Formalism at LHC Energies

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In ultraperipheral collisions, the electromagnetic fields can be approximated by a flux of quasi-real photons, according to the *Equivalent Photon Approximation* (EPA). This approach offers a powerful method for calculating physical observables in photo-induced processes.

Our goal is to predict the inclusive photoproduction of heavy hadronic states, including vector mesons and exotic states such as the fully-charmed tetraquark T_{4c}, in hadronic collisions. For this purpose, we use the EPA in combination with Non-Relativistic Quantum Chromodynamics (NRQCD). In this framework, a photon emitted by a charged particle interacts with a gluon from the target nucleon, leading to the final states of interest. The *NRQCD factorization* formalism is justified due to the large mass of these bound states.

Additionally, this study complemented by experimental data collected from LHC, can provide valuable insights into the gluon content of hadrons involved in these processes.

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