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Photoproduction of dijets with Pythia 8

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Photoproduction of dijets in ultra-peripheral heavy-ion collisions is expected to probe nuclear structure and provide additional constraints for nuclear PDFs. The first data for these processes in Pb+Pb collisions at the LHC will soon be published by ATLAS and due to the growing interest for ultra-peripheral collisions, more will likely follow in near future. In this talk I will introduce our recent implementation of photoproduction processes for Pythia 8 Monte-Carlo event generator. In particular I will discuss how the direct and resolved components are generated and quantify the relative contributions in different kinematical regions. I will also discuss how well the partonic content of resolved photons is known and how the photon flux from different beam particles is modeled. To validate our framework, I present comparisons to charged-hadron and dijet photoproduction data measured in e+p collisions at HERA by H1 and ZEUS experiments. Then I will quantify the sensitivity of photo-nuclear dijet production to nuclear PDFs and discuss about current theoretical uncertainties.

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