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## Inclusive and diffractive dijet production with the ATLAS experiment

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In ultra-peripheral collisions (UPCs), emitted photons may participate in a hard-scattering process with partons within the struck nucleus, providing a clean, energetic probe of its parton distributions. This talk presents measurements of jet production in UPCs performed with the ATLAS detector using high-statistics 2018 Pb+Pb data. Events are selected using requirements on jet production and forward neutron emission, and rapidity gaps are then used to statistically separate inclusive photo-nuclear, photo-diffractive, and two-photon hardscattering processes. The measured photo-nuclear cross-sections are compared to theoretical models in phasespace regions where significant nuclear PDF modifications are expected but not well constrained by world data, demonstrating the potential of these data to provide a strong new constraint on nPDF effects. Additionally, measurements are performed of jet production in UPCs where neither nucleus emits forward neutrons, which may provide a novel method for probing the radial dependence of nuclear modifications within the target. Studies of jet production without forward neutron emission will also make possible the first measurement of diffractive jet photoproduction in nuclear collisions, which will provide direct input for constraining existing models.

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