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Measurements of multi-jet production in ultra-peripheral lead-lead collisions with the ATLAS detector

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Beams of relativistic heavy ions accompanied by a large flux of equivalent photons, and photon-induced reactions are the dominant interaction mechanism in heavy-ion collisions when the colliding nuclei have transverse separation larger than the nuclear diameter. In these ultra-peripheral collisions (UPC) the photon can provide a clean probe of the partonic structure of the nucleus analogous with deep inelastic scattering. This talk presents measurements of dijet production in ultra-peripheral Pb+Pb collisions performed with the ATLAS detector. Events are selected using requirements on rapidity gaps and forward neutron production to identify the photo-nuclear processes. The relatively clean environment of these events allows for measurements in a region of x and Q^2 where significant nuclear PDF modifications are expected to be present and not strongly constrained by previous measurements.

Experimental Collaboration

ATLAS Collaboration

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