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Centrality and rapidity dependence of inclusive jet production in p+Pb collisions at 5.02 TeV with the ATLAS detector

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Measurements of reconstructed jets in high-energy proton-nucleus collisions over a wide rapidity and transverse momentum range are a fundamental probe of the partonic structure of nuclei. Inclusive jet production is sensitive to the modification of parton distribution functions in the high-density nuclear environment. In the forward direction and at small p_T jets may even explore the transition from a dilute to saturated partonic system. Furthermore, any modification of jet production in p+A collisions has implications for our understanding of the strong suppression seen in central A+A collisions. We present the latest results on inclusive jet production in 31/nb of proton-lead collisions at 5.02 TeV with the ATLAS detector at the LHC. The centrality of p+Pb events is determined by applying the Glauber model to the sum of the transverse energy in the Pb-going forward calorimeter. The jet yields in central and peripheral p+Pb collisions are found to be suppressed and enhanced, respectively, relative to geometric expectations. Furthermore, the modifications at all rapidities are seen to be consistent with a simple function of the total jet energy.

On behalf of collaboration:

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