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Measurement of inclusive jet and dijet cross-sections in pp collisions at 13 TeV with the ATLAS detector and comparison to NNLO predictions

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Inclusive jet and dijet cross-sections were measured in proton-proton collisions at a centre-of-mass energy of 13 TeV. The measurement uses a dataset with an integrated luminosity of $3.2~{\rm fb-1}$ with the ATLAS detector at the Large Hadron Collider. Jets are identified using the anti-kt algorithm with a radius parameter value of R=0.4. The inclusive jet cross-sections are measured double-differentially as a function of the jet transverse momentum, covering the range from 100 GeV to 3.5 TeV, and the absolute jet rapidity up to |y|=3. The double-differential dijet production cross-sections are presented as a function of the dijet mass, covering the range from 300 GeV to 9 TeV, and the half absolute rapidity separation between the two leading jets within |y|<3, y_* , up to $y_*=3$. Next-to-leading-order, and next-to-next-to-leading-order perturbative QCD calculations corrected for non-perturbative and electroweak effects are compared to the measured cross-sections.

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