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Multi-differential dijet cross sections at the ATLAS experiment

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Inclusive dijet cross-sections are measured in proton-proton collisions at a center-of-mass energy of 13 TeV. The measurements use a dataset with an integrated luminosity of 139 fb^{-1} recorded in 2015-2018 with the ATLAS detector at the Large Hadron Collider. Jets are identified using the anti- k_T algorithm with a radius parameter value of $R=0.4$. The inclusive dijet cross-sections are measured double-differentially as a function of the invariant dijet mass, covering the range from 240 GeV to 9.5 TeV, first for the half absolute rapidity separation between the two leading jets up to $y^* < 3.0$ and second for leading and subleading jet boost up to $y_{boost} < 3.0$. The results are unfolded to the particle level and compared to state-of-the-art next-to-next-to-leading-order pQCD calculations with full-color approximation corrected for non-perturbative and electroweak effects.

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