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The forward dijet cross section at next-to-leading order

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Using the formalism of the light-cone wave function in pQCD together with the hybrid factorization, we compute the cross-section for two and three particle production at forward rapidities in proton-nucleus collisions. We focus on the quark channel, in which the three produced partons – a quark accompanied by a gluon pair, or two quarks plus one antiquark – are all generated via two successive splittings starting with a quark that was originally collinear with the proton. The produced partons are put on-shell by their scattering off the nuclear target, described as a Lorentz-contracted "shockwave". By using the three-parton component of the quark light-cone wave function, together with the virtual corrections, we can then present our progress on the computation of the next-to-leading order correction to the cross-section for the production of a pair of jets.

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