

# Small- $x$ resummation of photon impact factors and virtual photon scattering at high energies

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After a brief introduction on the peculiarities of QCD in the high-energy regime and the bFKL approach for its description, we proceed to the theoretical analysis of virtual photon scattering.

Here, the crucial theoretical objects are the photon impact factors and the BFKL gluon Green's function, which up to now are known in leading and next-to-leading logarithmic approximation.

We improve the theoretical description of the virtual photon cross section by performing the renormalization group improved collinear resummation of impact factors and Green's function.

Our analysis is consistent with previous impact factor calculations at NLO, apart from a new term proportional to  $C_F$  that we find for the longitudinal polarization.

Finally, we use the resummed cross section to compare with the LEP data and with previous calculations. The resummed result is lower than the leading logarithmic approximation but higher than the pure next-to-leading one, and is consistent with the experimental data.

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