

# Improving the Drell–Yan probe of small $x$ partons at the LHC via an azimuthal angle cut

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Predictions for Drell–Yan lepton pair production at low dilepton mass and small  $x$  at the LHC usually have a large scale dependence, that can be decreased through obtaining an optimal factorization scale. In this paper, we reduce this scale by imposing a cutoff in azimuthal angle between the transverse momentum of the leptons, properly taking into account Sudakov effects. This would allow one to probe the parton distributions at smaller scales eliminating most of the current theoretical uncertainty.

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