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# Direct photon production at LHCb

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At small Bjorken-x, the large gluon number density in the nucleon leads to gluon recombination competing with gluon splitting, which could result in saturation of the gluon PDF. This gluon saturation has yet to be conclusively observed. Direct photon production provides sensitivity to gluon densities in protons and nuclei, and the forward acceptance of LHCb detector allows for measurements of this process at low Bjorken-$x$, providing an ideal probe of saturation effects. Progress towards the measurement of forward direct photon production using the LHCb detector will be presented.

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