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Studies of electroweak boson production in the forward region with LHCb (15'+5')

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We report on measurements of W+, W–and Z0 production, using data taken by the LHCb experiment at sqrt(s) = 7 TeV during 2010. The electroweak bosons are reconstructed by selecting decays to muonic final states. The cross-sections are measured within the region 2 < eta < 4.5, using muons of transverse momenta exceeding 20 GeV/c, as well as differentially as a function of lepton pseudorapidity (for W) and boson rapidity (for Z). Measurements of the W charge asymmetry as a function of lepton pseudorapidity are obtained for different lepton transverse momentum thresholds in the same forward region, providing constraints on the u and d valence partons. Results are compared to NLO and NNLO predictions.

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