Erratum to

Measurement of Open Beauty Production at HERA,

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H1 Collaboration

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We have miscalculated the theoretical value of the muon production cross section from b decay in [1]. The cross section in the visible region derived from the NLO QCD calculation of [2] should be 0.054 $\pm$ 0.009 nb (instead of 0.104 $\pm$ 0.017 nb given in [1]) to be compared to the measured value of 0.176$\pm$ 0.016 $^{+0.026}_{-0.017}$ nb which is unchanged. This amended theoretical value is now computed using the Peterson fragmentation parameterisation described in [1]. The LO calculation of this cross section gives 0.036 nb (instead of 0.069 nb given in [1]) compared to the value of 0.038 nb computed from the AROMA Monte Carlo [3] which is unchanged. Here the updated value of 10.95$\%$ is used for the semi-leptonic branching ratio for the primary admixture of b hadrons [4]. The total number of decay muons in the visible region also includes a fraction of 14$\%$ due to secondary decays. The changes enter the extrapolations to the full phase space and so other amendments are necessary. Despite the large factors involved we give the corresponding numbers for completeness. The total electroproduction cross section ($Q^2 <$ 1 GeV^2) should be 14.8 $\pm$ 1.3 $^{+3.3}_{-2.8}$ nb (instead of 7.1 nb) and the total photoproduction cross section at $W =$ 180 GeV should be 206 $\pm$ 19 $^{+46}_{-40}$ nb (instead of 111 nb). The value of the latter quantity has been amended in Fig. 1 which replaces Fig. 4 of [1].

Apart from the amended numbers given above the conclusions of the paper are unchanged.

References

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[5] A. D. Martin, R. G. Roberts, W. J. Stirling and R. S. Thorne, Eur. Phys. J. C **4** (1998) 463 [hep-ph/9803445].

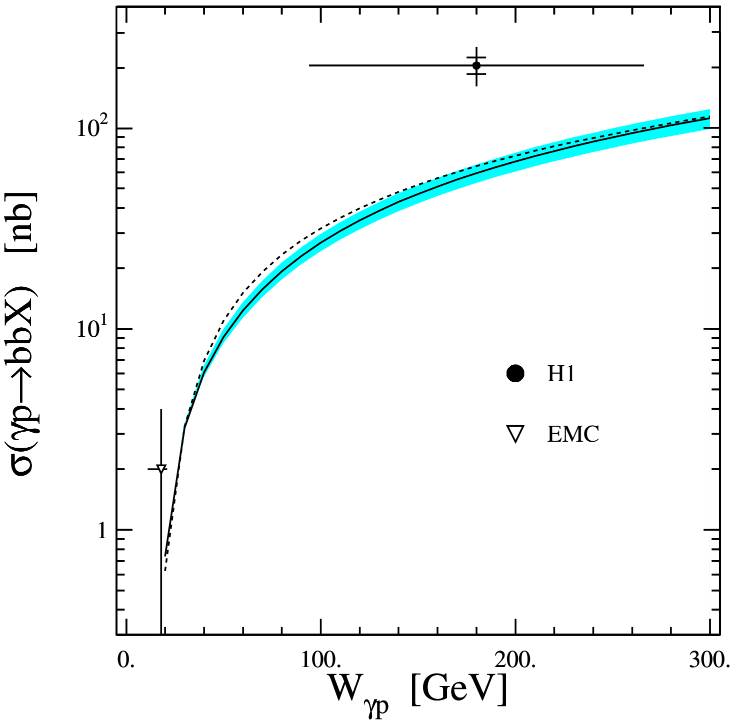

Figure 1: The total photoproduction cross section, $\sigma(\gamma p \to b\bar{b}X)$. The horizontal error bar represents the range of the measurement. The solid curve shows the expectation of the FMNR NLO QCD calculation (full line) with $m_b = 4.75$ GeV and the MRSG and GRV-HO structure functions for the proton and the photon, respectively. The shaded area corresponds to the uncertainty if the factorisation scale changes by a factor of 2. A change of the renormalisation scale by a factor of 2 leads to a similar result. The dashed line represents the prediction of the FMNR NLO QCD calculation if the MRST [5] structure function for the proton is used.