

Measurement of charm and beauty production in deep inelastic ep scattering from decays into muons at HERA

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The production of charm and beauty quarks in ep interactions has been measured with the ZEUS detector at HERA for squared four-momentum exchange $Q^2 > 20 \text{ GeV}^2$, using an integrated luminosity of 126 pb^{-1} . Charm and beauty quarks were identified through their decays into muons. Differential cross sections were measured for muon transverse momenta $p_{T\{\mu\}} > 1.5 \text{ GeV}$ and pseudorapidities $-1.6 < \eta_{\{\mu\}} < 2.3$, as a function of $p_{T\{\mu\}}$, $\eta_{\{\mu\}}$, Q^2 and Bjorken x . The charm and beauty contributions to the proton structure function F_2 were also extracted. The results agree with previous measurements based on independent techniques and are well described by QCD predictions.

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