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Measurement of D+- production production and F2c extraction in deep inelastic scattering at ZEUS

Content :

The production of charm quarks in deep inelastic ep scattering has been measured with the ZEUS detector at HERA using an integrated luminosity of 323 pb-1. Charm events were identified through the D+ -> K- pi+ pi+ (+cc) decay channel. A lifetime tag based on decay length significance was applied to improve the signal to background ratio. The kinematic region was 1.5 < p_T(D+) < 15 GeV, |eta(D+)| < 1.6, 5 < Q^2 < 1000 GeV^2 and 0.02 < y < 0.7. Total and differential cross sections for D+ production were measured and compared to next-to-leading-order QCD calculations and published ZEUS results. The charm contribution to the proton structure function, F2c, was extracted. The results agree with previous measurements and are well described by QCD predictions.

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Comments :

These results will be presented on behalf of the ZEUS Collaboration