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Measurement of High-Q^2 Neutral Current Deep Inelastic e^+p Scattering Cross Sections with a Longitudinally Polarised Electron Beam at HERA

vendredi 22 juillet 2011 15:05 (15 minutes)

The cross sections for neutral current deep inelastic scattering in e+p collisions with a longitudinally polarised positron beam have been measured using the ZEUS detector at HERA. The single-differential cross-sections dsigma/dQ^2, dsigma/dx and dsigma/dy and the double-differential cross sections in Q^2 and x are measured in the kinematic region Q^2 > 185 GeV^2 for both positively and negatively polarised electron beams and for each polarisation state separately. The measurements are based on an integrated luminosity of 136 pb^-1 taken in 2006 and 2007 at a centre-of-mass energy of 318 GeV. The structure functions xF_3 and xF_3^{\gammaZ} are determined by combining the e+p results presented in this analysis with previously measured e-p neutral current data. The measured cross sections are compared to the predictions.

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Classification de Session: Top and Electroweak Physics

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