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## **e+p high $Q^2$ neutral current cross sections and structure function $xF_3$**

*Friday, 19 July 2013 09:00 (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  $d\sigma/dQ^2$ ,  $d\sigma/dx$  and  $d\sigma/dy$  and the double-differential cross sections in  $Q^2$  and  $x$  are measured in the kinematic region  $Q^2 > 185 \text{ GeV}^2$  for both positively and negatively polarised electron beams and for each polarisation state separately. The measurements are based on an integrated luminosity of  $136 \text{ pb}^{-1}$  taken in 2006 and 2007 at a centre-of-mass energy of 318 GeV. The structure functions  $xF_3$  and  $xF_3\{\gamma Z\}$  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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