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Longitudinal Structure Function F_L at High Q^2 — •Ana Dubak, Vladimir Chekelian and Burkard Reisert — Max-Planck-Institut für Physik (Werner-Heisenberg-Institut), Föhringer Ring 6, 80805 München

Inclusive e^-p and $e+p$ cross sections for neutral current processes are measured with the H1 detector at HERA in the range of four-momentum transfer squared, Q^2, between 100 and 30000 GeV^2 and Bjorken x between 0.0013 and 0.65. The data were taken in 1998-1999 (e^-p) and 1999-2000 (e^+p) with a center-of-mass energy of 320 GeV and correspond to an integrated luminosities of 16.4 pb^{-1} and 65.4 pb^{-1}, respectively. An extension of the cross section measurement to high inelasticity region ($y = 0.75$) makes possible a measurement of longitudinal structure function F_L in the Q^2 range from 100 to 800 GeV^2. The results are well described by QCD prediction.

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