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## **Measurement of neutral current $e^\pm p$ cross sections at high Bjorken $x$ with the ZEUS detector**

*Tuesday, April 29, 2014 9:16 AM (24 minutes)*

The neutral current  $e^\pm p$  cross section has been measured up to values of Bjorken  $x \cong 1$  with the ZEUS detector at HERA using an integrated luminosity of  $187 \text{ pb}^{-1}$  of  $e^- p$  and  $142 \text{ pb}^{-1}$  of  $e^+ p$  collisions at  $\sqrt{s} = 318 \text{ GeV}$ . Differential cross sections in  $x$  and  $Q^2$ , the exchanged boson virtuality, are presented for  $Q^2 \geq 725 \text{ GeV}^2$ . An improved reconstruction method and greatly increased amount of data allows a finer binning in the high- $x$  region of the neutral current cross section and leads to a measurement with much improved precision compared to a similar earlier analysis. The measurements are compared to Standard Model expectations based on a variety of recent parton distribution functions.

**Primary author:** WING, Matthew (UCL)

**Presenter:** LEVY, Aharon (Tel Aviv University (IL))

**Session Classification:** WG1: Structure Functions and Parton Densities

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