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Measurement of Charged Current Deep Inelastic Scattering Cross Sections with a Longitudinally Polarised Electron Beam at HERA

Content :

Measurements of the cross sections for charged current deep inelastic scattering in e-p collisions with longitudinally polarised electron beams are presented. The measurements are based on a data sample with an integrated luminosity of 175pb⁻¹ collected with the ZEUS detector at HERA at a centre-of-mass energy of 318 GeV. The total cross section is given for positively and negatively polarised electron beams. The differential cross-sections $d\sigma/dQ^2$, $d\sigma/dx$ and $d\sigma/dy$ are presented for $Q^2 > 200$ GeV². The double-differential cross-section $d^2\sigma/dxdQ^2$ is presented in the kinematic range $280 < Q^2 < 30000$ GeV² and $0.015 < x < 0.65$. The measured cross sections are compared with the predictions of the Standard Model.

Primary authors : Dr. HAAS, Tobias (DESY)

Co-authors : Dr. REISERT, Burkard (Max-Planck Institut für Physik München) ; Dr. GEISER, Achim (DESY) ; Prof. TASSI, Enrico (Universita della Calabria)

Presenter : Dr. HAAS, Tobias (DESY)

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Submitted by : Mr. HAAS, Tobias

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These results are presented on behalf of the ZEUS Collaboration