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A Determination of the Longitudinal Proton Structure Function $F_L(x, Q^2)$ at HERA

H1 Collaboration

Abstract

The first determination at HERA of the longitudinal proton structure function $F_L(x, Q^2)$ is reported using data collected at HERA in 1994. The result is extracted from the measurement of the ep differential cross-section, extended to cover the kinematic range $0.78 > y > 0.6$, and the extrapolation into this new y region of the QCD fit performed on the previously published $F_2(x, Q^2)$ measurement.

Plenary Sessions:
2. Soft Interactions and diffraction Phenomena - S. Levonian
4. QCD and Low x Physics - H. Abramowicz, R. Brock
5. AlphaS Determination and Implications - M. Schmelling, G. Sterman
Parallel Session: I Strong Interaction Physics
2. Soft Interactions
3. Structure Functions and Low x Physics
4. Hard Processes and Perturbative QCD