Recent topics from structure-function measurements at HERA

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The *ep* collider HERA has extended the kinematic region of the structure-function measurement of the proton to higher Q^2 values and to lower x values. Topics from recent results will be discussed, which could include:

- Strong rise of F_2 at low x and the Q^2 dependence of its slope, compared with theoretical models.
- Measurements at very low Q^2 and x values, indicating the clear breakdown of the DGLAP formalism under Q^2 of approximately 1 GeV^2. The transition from a perturbative to a non-perturbative QCD description is discussed.
- NLO QCD fits to HERA and fixed-target data to obtain parton distribution functions (PDFs). The precision of the determination of sea and gluon distributions is discussed and put into perspective. A simultaneous fit on PDFs and α_s has also been made.
- Cross-section measurements at high Q^2 on neutral current and charged current interaction start to provide a determination of the valence-quark PDFs from HERA data alone, free from the nuclear corrections of fixed-target data.
- News from the HERA-II running with polarized electron beams.