**Abstract 263**
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# Measurement of Differential Cross Sections for Charged Current $e^+p$ Interactions at very high $Q^2$ at HERA and the anti-quark content of the proton

H1 Collaboration

Measurements using the H1 detector of the differential cross sections for charged current $e^+p$ interactions are presented for 4–momentum transfer squared $Q^2 < 10^5$ GeV$^2$. The $Q^2$ dependence is used to determine the mass of the electroweak propagator in the space–like domain. The sensitivity of the $y$ dependence of the cross section to the helicity composition of the current quark, together with the electroweak expectation for this composition, are used to extract the contribution of anti–quarks to proton structure. The $Q^2$ evolution of the $x$ distribution provides further input to the flavour dependent QCD description of the structure of the proton.