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# Measurement of Leading Proton Production in Deep–Inelastic Scattering at HERA

**H1 Collaboration**

The HERA facility at DESY, where 27.5 GeV electrons collide with 820 GeV protons, has been used to measure the cross section for deep–inelastic scattering in the kinematic range $2.6\,\mathrm{GeV}^2 \leq Q^2 \leq 28.6\,\mathrm{GeV}^2$ and $10^{-3} \leq x \leq 10^{-2}$ with a leading proton in the energy range $580\,\mathrm{GeV} \leq E'_p \leq 740\,\mathrm{GeV}$. The data were collected with the H1 detector equipped with a forward, or leading, proton spectrometer. The contribution $F_2^{LP(3)}$ of such events to the proton structure function $F_2$ is determined as a function of the deep–inelastic scattering variables $x_\pi$, Bjorken–$x$ and $Q^2$, and also $x_\pi$, $\beta$ and $Q^2$. The dependences are well described by models based on meson exchange.