$D^{*\pm}$ Meson Production in Deep Inelastic Scattering using the H1 Detector at HERA

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The $D^{*\pm}$ meson production cross section in deep inelastic scattering has been measured using data collected with the H1 detector at the ep collider HERA over the kinematic range $2 < Q^2 < 100$ GeV^2, $0.05 < y < 0.8$, $p_T(D^{*\pm}) > 1.5$ GeV and $|\eta(D^{*\pm})| < 1.5$. The differential cross sections, as a function of $p_T(D^{*\pm})$, $\eta(D^{*\pm})$, Q^2, x_{Bj}, W and $x_{D^{*\pm}}$, have been compared with the NLO QCD expectations. In addition, the charm contribution $F_2^{c\bar{c}}(x, Q^2)$ to the proton structure function has been determined.