

D*⁺⁻ production at high Q² with the H1 detector

Tuesday, April 28, 2009 4:20 PM (15 minutes)

Inclusive production of D⁺⁻ mesons in deep inelastic scattering at HERA is studied at high photon virtualities $Q^2 > 100 \text{ GeV}^2$ for the first time with the H1 experiment. The data were collected during the years 2004-2007 and correspond to an integrated luminosity of 351 pb^{-1} . D-mesons are reconstructed in their decays $D^{+-} \rightarrow D^0 \pi^{\pm} \pi^{\mp}$, $D^{+-} \rightarrow K^{\mp} \pi^{\pm} \pi^{\mp}$. The visible range for the measurement covers the pseudorapidity interval $|\eta(D)| < 1.5$, transverse momenta $p_T(D^*) > 1.5 \text{ GeV}$, and inelasticity in the scattering process $0.02 < y < 0.7$. Differential cross sections are compared to predictions from the next-to leading order calculation HVQDIS and the leading order Monte Carlo codes RAPGAP and CASCADE.

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Session Classification: Heavy Flavours