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Double Tagging of Heavy Quarks with a D^ and a
muon at HERA*

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Heavy quark production is investigated in the H1 experiment at the HERA collider in DESY, Hamburg. Photoproduction events with $Q^2 < 1 \text{ GeV}^2$ are selected, in which the electron is scattered at small angles. The heavy quarks are tagged by reconstructing a D^* meson with $p_t \geq 1.5 \text{ GeV}$ in the central region of the detector: $|\eta(D^*)| < 1.5$, in the decay channel $D^* \rightarrow K\pi\pi_s$. Additional information is obtained by detecting also a muon coming from the decay of heavy hadrons.

Charge and azimuthal angle correlations between the D^* and the muon are used to determine the charm and beauty contributions to the data. Kinematic variables of the $D^*\mu$ system (transverse momentum $p_t(D^*\mu)$, pseudorapidity $\eta(D^*\mu)$, rapidity $y(D^*\mu)$ and azimuthal angle $\Delta\phi(D^*\mu)$) are defined as an approximation of the heavy quark pair variables. The mean $D^*\mu$ transverse momentum seems to be sensitive to different QCD evolution equations: DGLAP, implemented in Pythia Monte Carlo, and CCFM, in Cascade.

Results obtained from the 226 pb^{-1} data from the HERA I and II run periods will be presented.

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