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Measurement of Inclusive D* Meson and D* Meson Dijet Cross Sections in Photoproduction at HERA

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The inclusive photoproduction of D*mesons and of D*-tagged dijets is investigated with the H1 detector at the ep collider HERA. The kinematic region covers small photon virtualities $Q^2 < 2$ GeV^2 and photon-proton centre-of-mass energies of $100 < W_{\gamma p} < 285$ GeV. Inclusive \dstar\ meson differential cross sections are measured for central rapidities $|\eta(D*)| < 1.5$ and transverse momenta $p_T(D*) > 1.8$ GeV.
The heavy quark production process is further investigated in
events with at least two jets with transverse momentum

$ptj > 3.5$ GeV each, one containing the \dstar\ meson.
Differential cross sections for D*-tagged dijet production and for
correlations between the jets are measured in the range
$|\eta(D*)| < 1.5$ and $p_T(D*) > 2.1$ GeV.
The results are compared with predictions from Monte Carlo simulations
and next-to-leading order perturbative QCD calculations.

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