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High p_t Charged Particle Cross Section in Photoproduction and Extraction of the Gluon Density in the Photon

H1 Collaboration, DESY

Photoproduction data collected with the H1 detector at HERA in 1994 are used to measure inclusive charged particle cross sections. The data sample covers the photon fragmentation region between $1 \leq \eta \leq 3$ for particle with transverse momenta above $p_t = 2$ GeV. The event kinematics corresponds to an average centre of mass energy $W_{\gamma p} = 200$ GeV. The kinematics of the high p_T particles is used to determine the x_γ distribution of the partons in the photon. The gluon content of the photon is extracted in LO QCD and found to rise with decreasing x_γ.