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## Jet Production at HERA and determination of alpha\_s with H1

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Inclusive-jet, dijet and trijet differential cross sections have been measured in neutral current deep-inelastic ep scattering for exchanged boson virtualities 150 < Q2 < 15000 GeV2 with the H1 detector at HERA. The measurements are used to determine value of the strong coupling alpha\_s(M\_Z). Additionally, the production of jets is studied at low four momentum transfer squared 5 < Q2 < 100 GeV2 using integrated luminosity of  $300 \ pb^{-1}$ . Cross sections are measured as a function of Q2 and jet transverse momentum and compared to the perturbative next-to-leading order QCD calculations corrected for hadronisation effects. Finally, the production of jets is studied in deep-inelastic e+p scattering at low negative four momentum transfer squared 5 < Q2 < 100 GeV2 and at inelasticity 0.2 < y < 0.7 using data recorded by the H1 detector at HERA in the years 1999 and 2000, corresponding to an integrated luminosity of 43.5 pb-1. Inclusive jet, 2-jet and 3-jet cross sections as well as the ratio of 3-jet to 2-jet cross sections are measured as a function of Q2 and jet transverse momentum. The 2-jet cross section is also measured as a function of the proton momentum fraction xi. The measurements are well described by perturbative quantum chromodynamics at next-to-leading order corrected for hadronisation effects and are subsequently used to extract the strong coupling alpha\_s.

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