# Transverse energy flow in deep-inelastic $ep$ scattering at HERA

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Measurements of transverse energy flow are presented for deep-inelastic scattering events produced in positron-proton collisions at HERA. The kinematic range covers squared momentum transfers, $Q^2$, from 2.5 GeV$^2$ to 40 000 GeV$^2$, and $x$, the Bjorken scaling variable, down to $3 \cdot 10^{-5}$. The transverse energy flow is measured in the hadronic centre-of-mass frame and is studied as a function of $Q^2$, $x$, and pseudo-rapidity (in the range $-3 < \eta^* < 5.5$). A comparison is made with QCD-based Monte Carlo models. The behaviour of the mean transverse energy in a central pseudo-rapidity range, $-0.5 < \eta^* < 0.5$, and a photon fragmentation interval, defined to lie in the range $2 < \eta^* < 3.0$, is studied as a function of $x$, as a function of $Q^2$ and as a function of the invariant mass, $W$, of the hadronic final state.