Abstract 378
Parallel sessions: 2,3,4
Plenary sessions: 1,2,3

Leading Neutron Production in Deep–Inelastic Scattering at HERA

H1 Collaboration

The H1 experiment used a new forward neutron calorimeter (FNC) during 1996 to obtain $ep \to e'Xn$ data. In the kinematic range $5 \leq Q^2 \leq 100$ GeV^2 and $0.05 \leq y \leq 0.7$, $(36^{+14}_{-9})\%$ of ep collisions contain a neutron with energy $E_n \geq 100$ GeV. This fraction of DIS events is found to be independent of Q^2 and x_{BJ} and to have the same multiplicity distribution as does the fully inclusive DIS sample. The observed neutron energy and $|t|$ distributions are in agreement both with the predictions of models based on pion exchange and with those based on soft colour interactions for events with a neutron with $E_n \geq 400$ GeV.