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Measurements of the decorrelation between the leading jet and the scattered lepton in deep inelastic scattering at HERA

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Presented are the latest updates of the measurement of the azimuthal decorrelation angle and the transverse momentum imbalance between the leading jet and the scattered lepton in deep inelastic scattering with the ZEUS detector at HERA. During the HERA II data-taking period, electrons and positrons collided with protons with a center of mass energy of 318 GeV. The total integrated luminosity is 326 pb⁻¹. The analysis is based on data with an exchanged photon virtuality, Q^2 , in the range of $10 \text{ GeV}^2 < Q^2 < 350 \text{ GeV}^2$ and inelasticity, y , in the range of $0.04 < y < 0.7$. Events were selected where the scattered electron or positron had an energy $E_e > 10 \text{ GeV}$ and the jets had transverse momenta, $p_{T,\text{jet}}$, and pseudorapidities, η_{jet} , of $2.5 \text{ GeV} < p_{T,\text{jet}} < 30 \text{ GeV}$ and $-1.5 < \eta_{\text{jet}} < 1.8$, respectively. Normalized differential cross sections are presented as functions of $p_{T,\text{jet}}$, Q^2 and jet multiplicity.

Submitted on behalf of a Collaboration?

Yes

Participate in poster competition?

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