



Contribution ID: 330

Type: Talk in Parallel Session at DIS2013

Measurement of isolated photons with and without accompanying jets at HERA

Tuesday 23 April 2013 16:50 (20 minutes)

Isolated-photon+jet production in ep collisions at a centre-of-mass energy of 318 GeV has been measured with the ZEUS detector at HERA using an integrated luminosity of up to 300 pb⁻¹.

Measurements of prompt-photon+jet cross sections are presented as functions of the photon transverse energy and pseudorapidity in a wide range of exchanged-photon virtuality.

In addition, differential gamma+jet cross sections are presented as functions of the jet transverse energy and pseudorapidity. Leading-logarithm parton-shower Monte Carlo predictions and perturbative QCD calculations were compared to the data.

Isolated-photon production in photoproduction, both inclusive and together with a jet, has been measured with the ZEUS detector at HERA using an integrated luminosity of 370 pb⁻¹. Measurements were made in the isolated-photon transverse-energy and pseudorapidity ranges $6 < E_T^\gamma < 15$ GeV and $-0.7 < \eta^\gamma < 0.9$, and for jet transverse-energy and pseudorapidity ranges $4 < E_{T,jet} < 35$ GeV and $-1.5 < \eta_{jet} < 1.8$, for exchanged

photon virtualities $Q^2 < 1. \text{GeV}^2$. Differential cross sections are presented for inclusive isolated photon production as functions of the transverse momentum and pseudorapidity of the photon and the jet. Higher-order theoretical calculations are compared to the results.

Authors: IUDIN, Andrii; BEHNKE, Olaf (DESY); Dr BUSSEY, Peter (University of Glasgow)

Co-author: ABT, Iris (Werner-Heisenberg-Institut)

Presenter: IUDIN, Andrii

Session Classification: WG4: QCD and HFS

Track Classification: QCD and Hadronic Final States