

Isolated Lepton and Multi-Lepton production at HERA

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Measurements of the production of events containing isolated high energy leptons (electrons, muons or taus) and missing transverse momentum produced in ep collisions have been performed with the H1 and ZEUS detectors at HERA in the period 1994-2007. In addition, topologies with more than one high energy isolated lepton (electron or muon) are analyzed. The data samples corresponds to an integrated luminosity of 0.5 fb^{-1} per experiment. The observed event yields are compared to the predictions from the Standard Model. In general good agreement is found, where the SM prediction is dominated by W production for the case of isolated high energy leptons with missing transverse momentum and by gamma-gamma collisions for the multilepton topologies. Total and differential cross sections of these processes are measured. The H1 and ZEUS data are also combined in a common phase space, in order to make best use of the full HERA data samples and measure these rare processes with good precision.

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