Contribution ID: **128** Type: **not specified**

Recent diffractive results from HERA

Monday, 5 October 2015 17:10 (20 minutes)

The exclusive dijet production in diffractive deep inelastic e+- p scattering has been measured with the ZEUS detector at HERA using an integrated luminosity of 372 pb^{-1}. The measurement was performed for \gamma^-p centre-of-mass energies in the range 90 < W < 250 GeV and photon virtualities in the range Q^2 > 25 GeV^2. Energy and transverse-energy flows around the jet axis are presented. The cross section is presented as a function of \beta, the Bjorken variable defined with respect to the diffractive exchange and, in bins of \beta, as a function of \phi, the angle between the \gamma^-dijet plane and the \gamma^*-e plane in the rest frame of the dijet final state. The results are compared to predictions from models which are based on different assumptions about the nature of the diffractive exchange.

The cross section of the diffractive process ep -> eXp is measured at a centre-of-mass energy of 318 GeV, where the system X contains at least two jets and the leading final state proton p is detected in the H1 Very Forward Proton Spectrometer. The measurement is performed in photoproduction with photon virtualities Q^2<2 GeV^2 and in deep-inelastic scattering with 4<Q^2<80 GeV^2. The results are compared to NLO QCD calculations based on diffractive parton distribution functions as extracted from measurements of inclusive cross sections in diffractive DIS. A complementary process, ZEUS present measurements of the diffractive production of isolated (”prompt”) photons in photoproduction, with and without a jet. Cross sections are evaluated for centrally produced photons with jets as a function of the photon and jet transverse energy and pseudorapidity, and also for the fraction of incoming photon energy imparted to the photon-jet system. Comparison is made to predictions from Rapgap.

A measurement is presented dijet cross sections in diffractive deep-inelastic ep scattering at HERA using data collected by the H1 experiment. The investigated phase space is spanned by the photon virtuality in the range of 4<Q2<100 GeV2 and by the fractional proton longitudinal momentum loss x_pom<0.03. The resulting cross sections are compared with NLO QCD predictions based on diffractive PDFs and the value of the strong coupling constant is extracted.

Presenter: Dr VALKAROVA, Alice (Institute of Particle and Nucelar Physics, Charles University)

Session Classification: Diffraction and Pomeron