

Deeply virtual Compton scattering at HERA and perspectives at CERN

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A new measurement is presented of elastic deeply virtual Compton scattering (DVCS) based on data taken by the H1 detector during the complete HERA II period. The data are well described by QCD based calculations. We discuss some aspects of the parametrisations, as the dependence in t , with factorised and non-factorised approaches, where t is the square of the four-momentum exchanged at the hadron vertex. For the first time, a beam charge asymmetry has been obtained in a colliding mode, using data recorded in e^-p and e^+p . A significant non zero value is measured, related to the interference of QCD and QED processes, namely the DVCS and Bethe-Heitler reactions. It is certainly the most sensitive observable to the different hypothesis needed in the GPDs parametrisations. We show that the approximations done for the t dependence lead to significant differences for the predictions in the HERMES kinematic domain. It opens directly the way to the future of COMPASS experiment. We give the present status of the proposal for COMPASS GPDs and we emphasize the physics items that will be studied there .