

XXVIII International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 710

Type: **Contributed Talk**

Exclusive single-photon muoproduction at COMPASS

Thursday, 15 April 2021 08:54 (18 minutes)

Deeply Virtual Compton Scattering (DVCS) is the golden exclusive reaction to study Generalized Parton Distributions (GPDs). Such exclusive measurements were performed at COMPASS in 2016 and 2017 at the M2 beamline of the CERN SPS using the 160 GeV muon beam scattering off a 2.5m long liquid hydrogen target surrounded by a barrel-shaped time-of-flight system to detect the recoiling target proton. The scattered muons and the produced real photons were detected by the COMPASS spectrometer, which was supplemented by an additional electromagnetic calorimeter for the detection of large-angle photons.

The DVCS cross section and its dependence with respect to the squared four-momentum transfer are extracted from the sum of cross-sections measured with opposite beam charge and polarization. The goal of the measurement is to determine the transverse extension of the partons in the specific Bjorken x domain of COMPASS between valence quarks and gluons. The analysis method and preliminary results from a part of the long run will be discussed.

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Session Classification: Structure function and parton densities

Track Classification: Structure Functions and Parton Densities