Contribution ID: **75** Type: **not specified**

The spin structure function of the proton at low x and low Q2 from COMPASS

Monday 26 September 2016 16:40 (20 minutes)

We present COMPASS results on the longitudinal double-spin asymmetry, Ap1, and the spin dependent structure function of the proton, gp1, in the quasi-real photoproduction regime. Data were collected by scattering a longitudinally polarised
muon beam off a longitudinally polarised proton target. Two data sets with a beam energy of respectively 160 and 200 GeV were taken, which improve, once combined, the statistical precision on Ap1 and gp1 by a factor of 12 compared to the previous SMC experiment covering a similar kinematic region.

The high statistical precision allows Ap1 and gp1 to be measured in several 2-D grids, (x, Q2), (ν, Q2), (x, ν) and (Q2, x) within the following kinematic domain: $4.0 \times 10{-}5 \leq x \leq 4.0 \times 10{-}2$, $0.001 \leq Q2 \leq 1$ (GeV/c)2 and $14 \leq \nu \leq 194$ GeV. The presented measurements provide inputs to better constrain non-perturbative models of electroproduction.

Presenter: ANDRIEUX, Vincent (Univ. Illinois at Urbana-Champaign (US))

Session Classification: Helicity

Track Classification: B. Helicity