



Contribution ID: 238

Type: **not specified**

Wide-Angle Compton Scattering at Jefferson Lab

Wednesday 5 April 2017 09:36 (18 minutes)

Wide-Angle Compton Scattering (WACS) on the proton is a powerful and under utilized probe of the transverse structure of the nucleon, which is complementary to high- Q^2 elastic electron-nucleon scattering. By demanding that all of the momentum transferred to the proton be shared among its constituents, unlike in inclusive or deeply virtual reactions, one gains access to information on the high $-t$ axial, vector and tensor proton structure in the valence regime.

The small cross section associated with WACS poses a significant experimental challenge, and the requirements for relatively high photon energy and very high luminosity make Jefferson Lab (JLab) the ideal facility to explore this reaction. Two experiments took place during the 6 GeV era at Jefferson Lab, which mapped out unpolarized and polarized observables up to $-t$ of several GeV^2 . New experiments are planned at the post-upgrade 12 GeV JLab, preparations for which are already at an advanced stage. A brief overview of the earlier experiments and results will be discussed, before moving on to an exploration of plans for the new experiments and crucially what they can reveal about the non-perturbative transverse structure of the proton and the underlying quark-gluon dynamics.

Primary author: Dr HAMILTON, David (University of Glasgow)

Presenter: Dr HAMILTON, David (University of Glasgow)

Session Classification: WG6 Spin and 3D Structure

Track Classification: WG6) Spin and 3D Structure