Contribution ID: **293** Type: **Oral**

Precision Studies of the Neutron Spin Structure using a Polarized Helium-3 Target at Jefferson Lab

Thursday 22 August 2024 12:30 (30 minutes)

Recently, two experiments in Hall C at Jefferson Lab finished data taking. One experiment focused on a precision measurement of the virtual photon asymmetry A_1^n at large values of Bjorken-x ($0.61 < x < 0.77$) at various values of Q^2, and the other experiment measured the spin structure function g_2^n over a large range of Bjorken-x ($0.20 < x < 0.95$) to extract the Q^2 evolutions of the twist-3 matrix element, $d_2^n(Q^2)$, at three different values of Q^2 ($3.0\ \text{GeV}^2 < Q^2 < 5.60\ \text{GeV}^2$). Details of the experiments and an update of the data analyses will be presented.

This research is partially supported by the Office of Nuclear Physics of the DOE Office of Science, Grant Number: DE-FG02-99ER41101

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Session Classification: Light Quarks

Track Classification: B: Light Quarks