



# G0 Forward-Angle Transverse Asymmetry Results



- Transverse beam spin asymmetry data taken during G0 forward-angle run
- $A_n$  extracted from azimuthal dependence of measured asymmetries

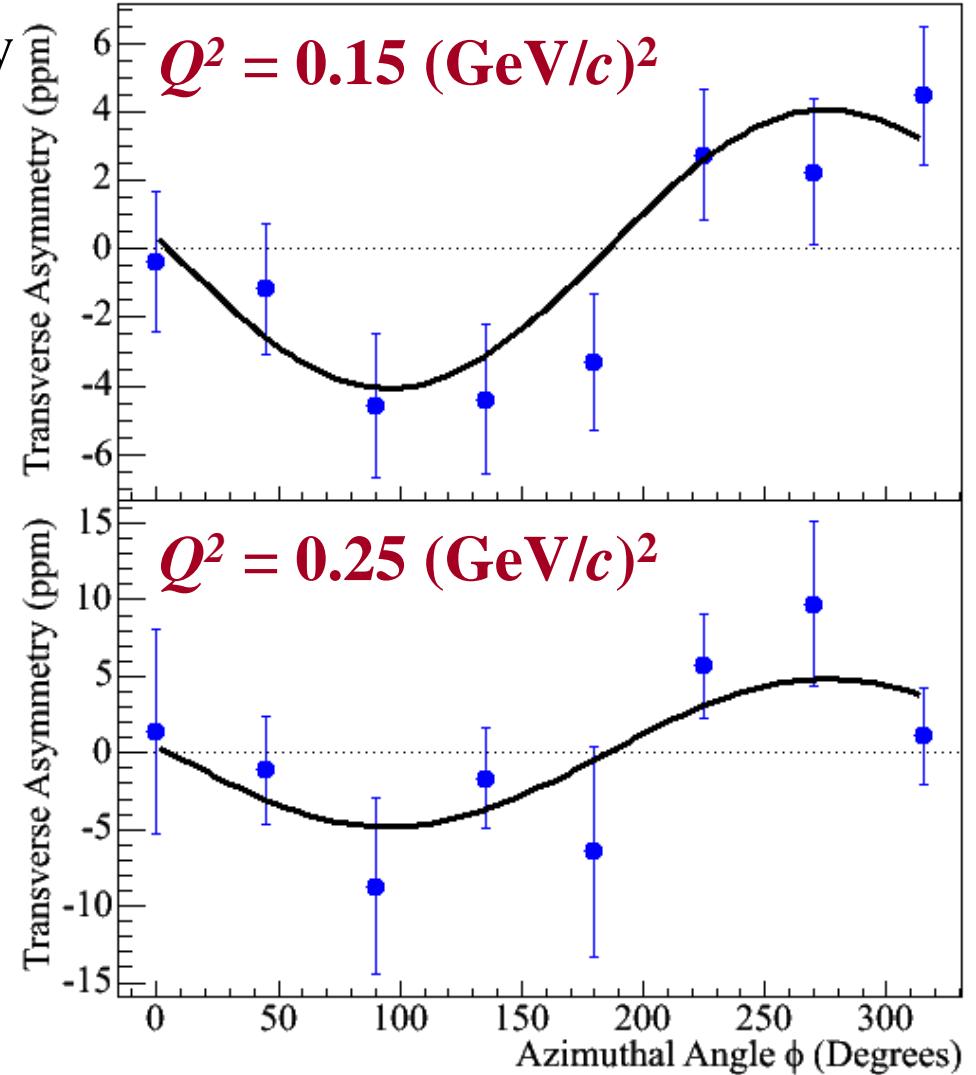
$$A_{\perp} = |A_n| \sin(\phi + \phi_0)$$

$A_n = -4.06 \pm 0.99_{stat} \pm 0.63_{syst}$  ppm

$Q^2 = 0.15 \text{ (GeV}/c)^2$ ,  $\theta_{CM} = 20.2^\circ$

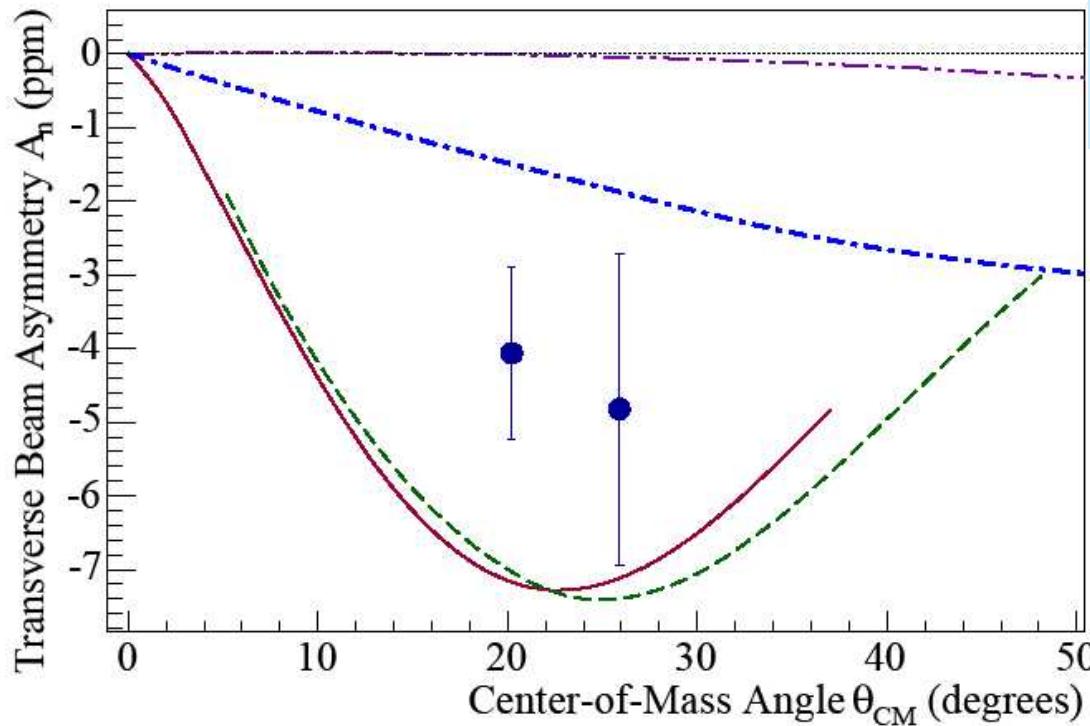
$A_n = -4.82 \pm 1.87_{stat} \pm 0.98_{syst}$  ppm

$Q^2 = 0.25 \text{ (GeV}/c)^2$ ,  $\theta_{CM} = 25.9^\circ$



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D.S. Armstrong et al., arXiv:0705.1525 [nucl-ex]



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- Purple line – elastic contribution only
- Other lines – inelastic contributions as well

The contribution of the inelastic hadronic intermediate states to the two-photon exchange amplitude is significant.

- · · Pasquini & Vanderhaeghen, Phys. Rev. C70, 045206 (2004)
- · — Pasquini & Vanderhaeghen, Phys. Rev. C70, 045206 (2004)
- · · Afanasev & Merenkov, Phys. Lett. B599, 48 (2004), hep-ph/0407167 v2
- · · Gorchtein, Phys. Lett. B644, 322 (2007)

More transverse asymmetry data to come from G0 backward-angle!