Summary of Proposed

Q^2=3.5 [GeV/c]^2, x_B=1.3, P_m= 500-1000 MeV/c

D(e,e'p)n Measurements

presented

by

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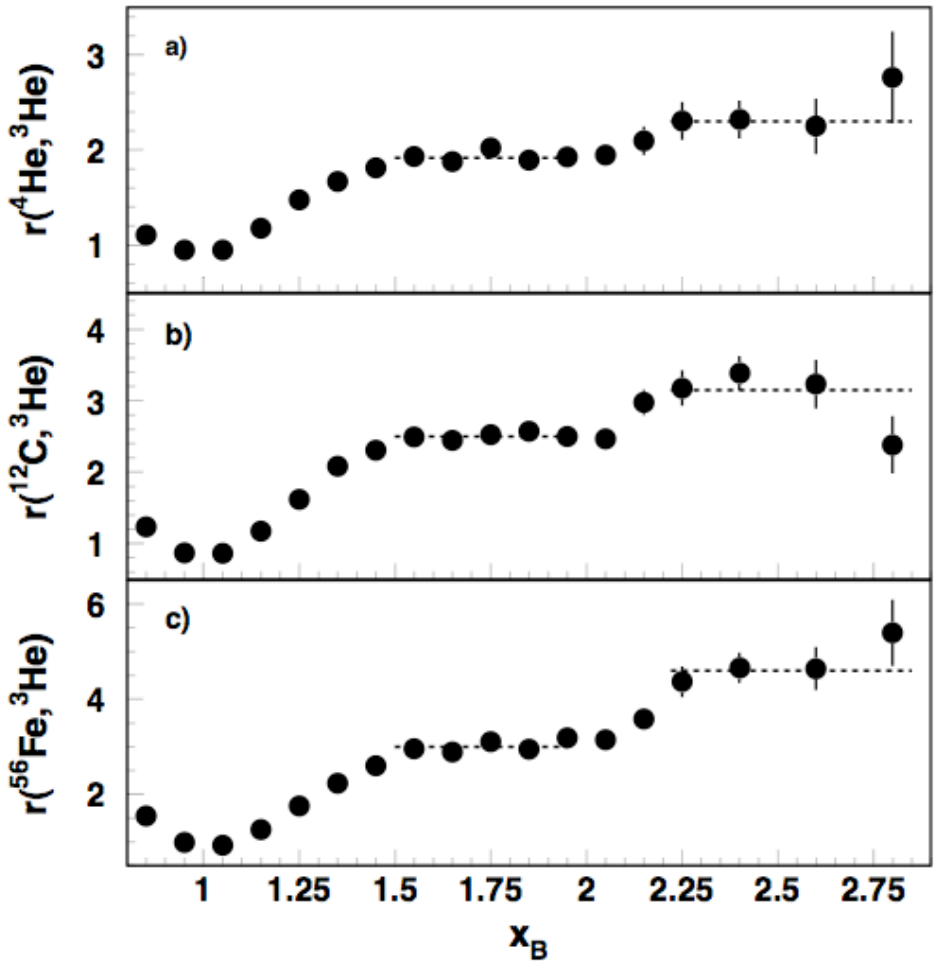
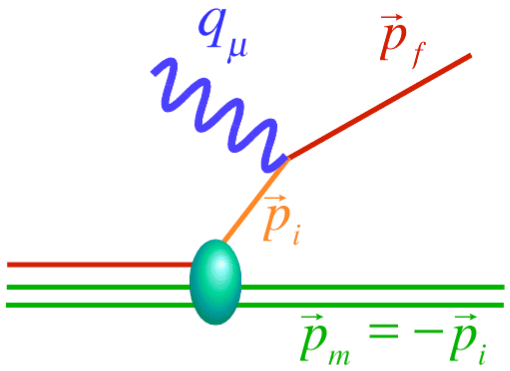
Correlations?



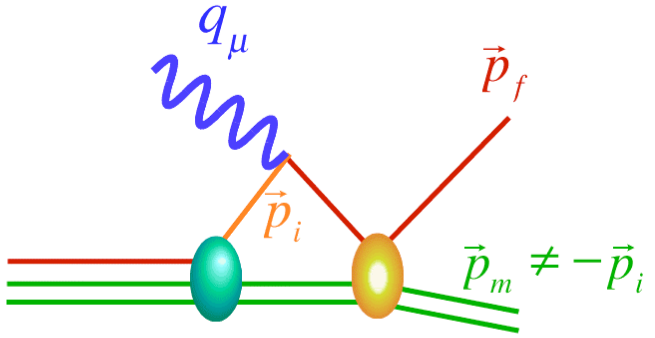
D(e,e'p) Reaction Diagrams

PWIA



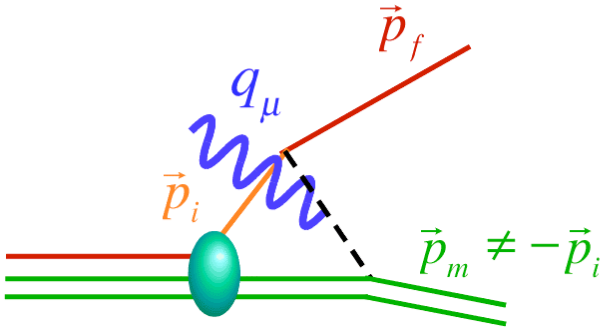
$$\frac{d\sigma}{d\omega d\Omega_e d\Omega_N} = k\sigma_{eN} S(E_m, p_m)$$

FSI (note SRC-FSI?)

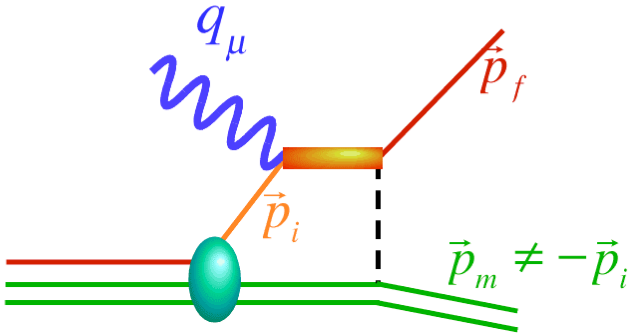


$$\frac{d\sigma}{d\omega d\Omega_e d\Omega_N} = k\sigma_{eN} D(E_m, p_f, p_m)$$

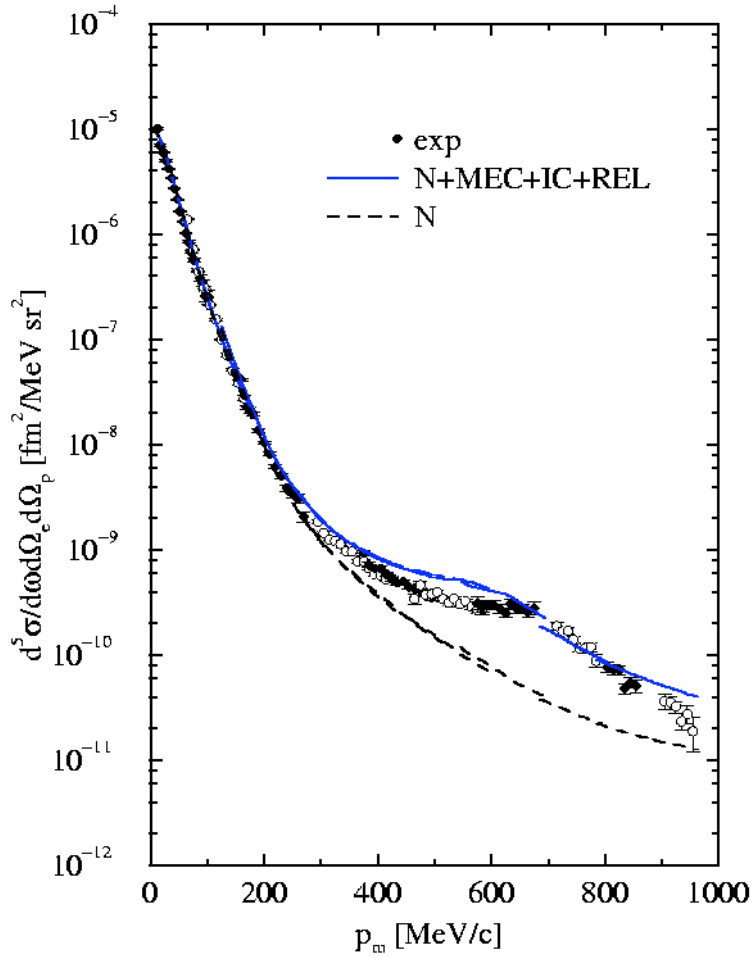
MEC



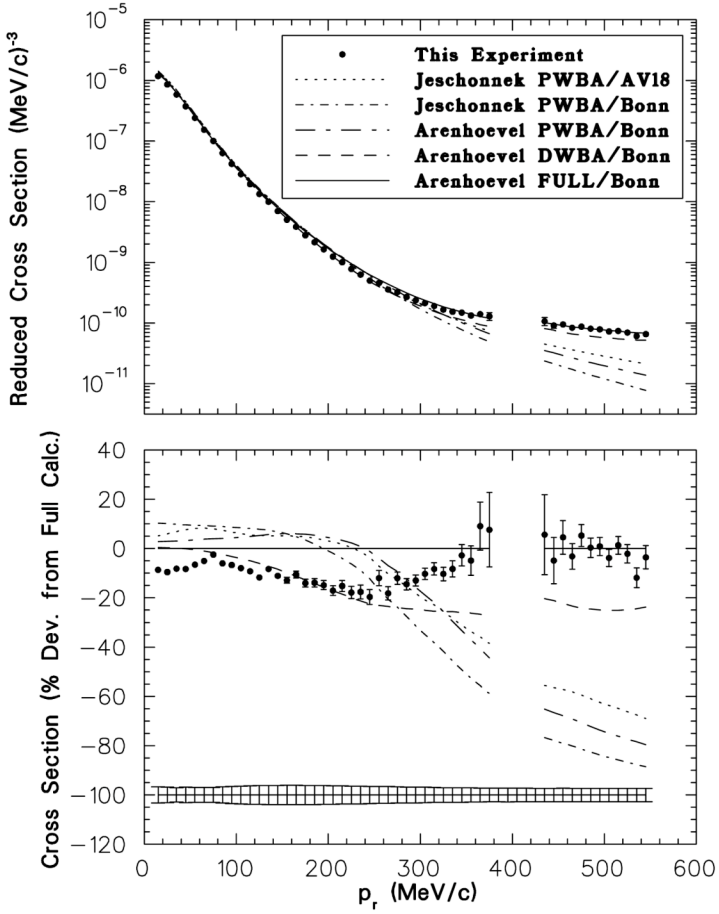
IC



Lower Q^2, Lower x_B Results

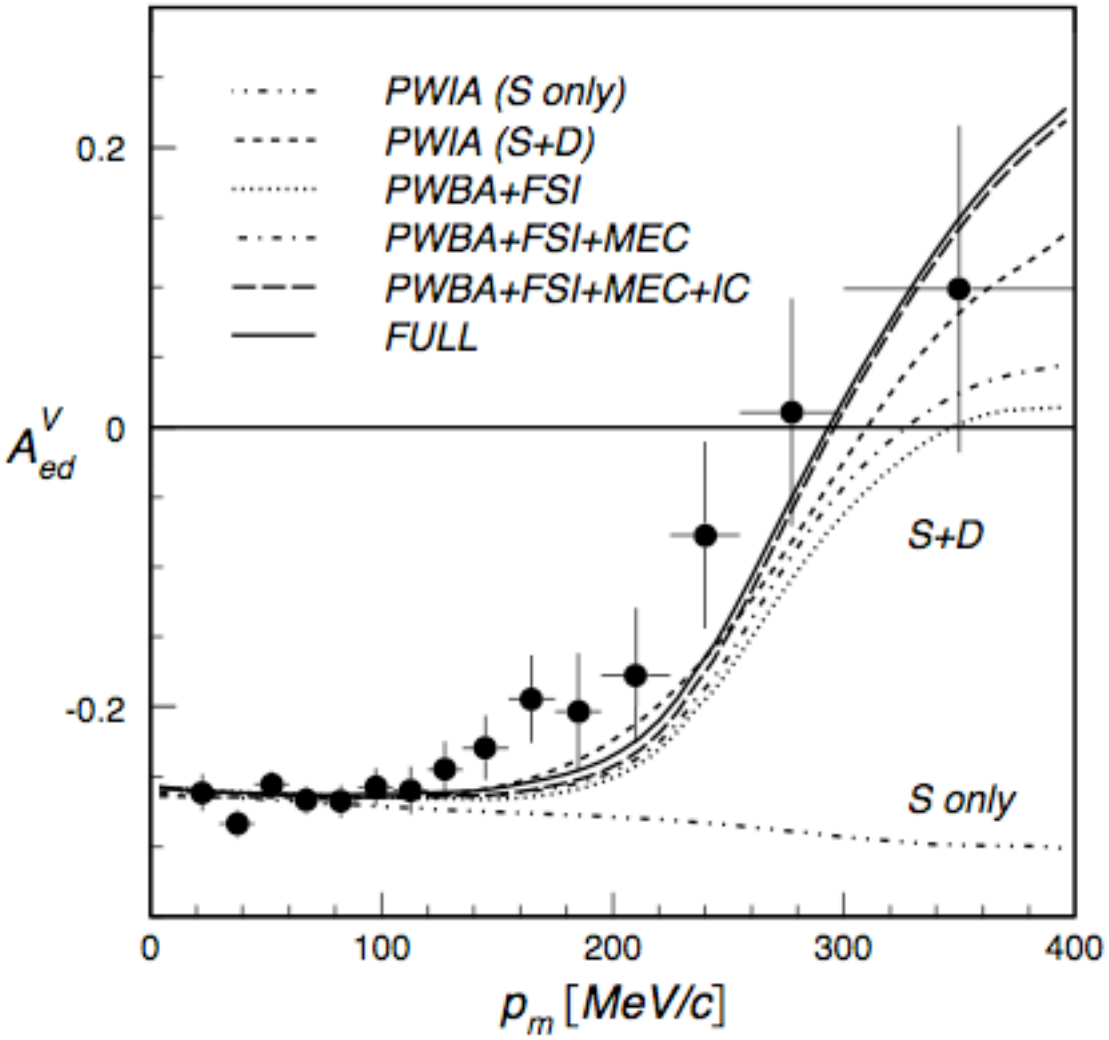


MAMI $Q^2 = 0.33$ (GeV/c)^2
Blomqvist et al.



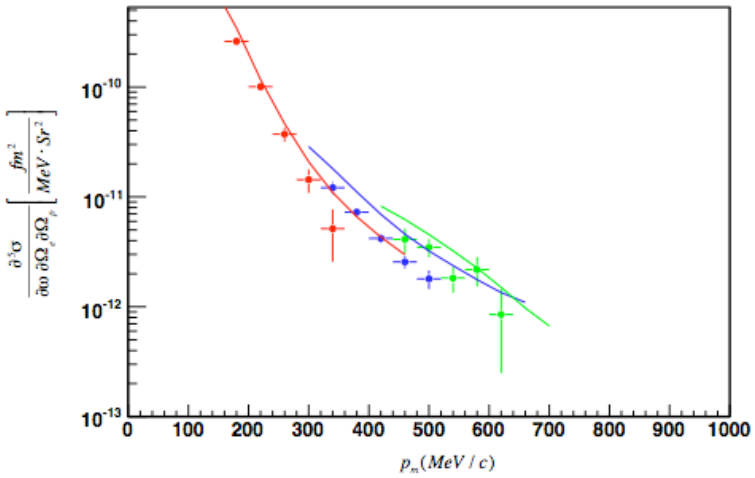
JLAB $Q^2 = 0.67$ (GeV/c)^2
Ulmer et al.

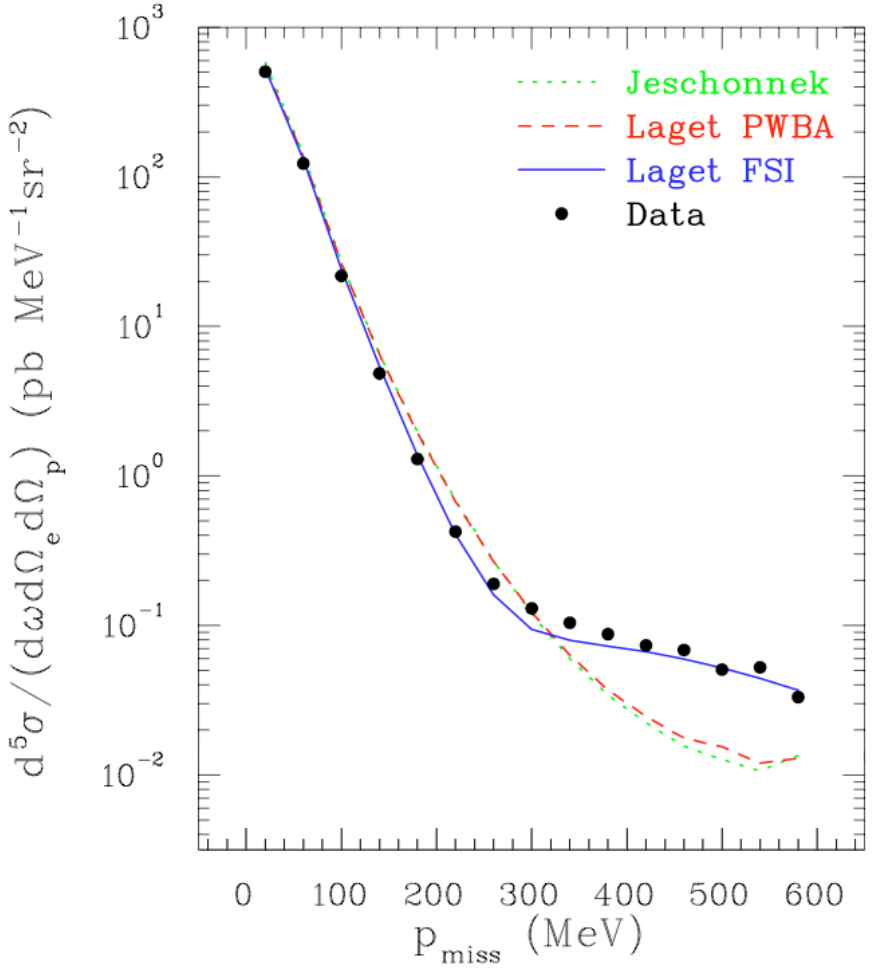
Asmmetry Data



New Data From Hall A

- $Q^2 = 3.5$ [GeV/c]^2
  - Eikonal Approximation
  - FSI Moves Strength
- $x_B = 1.0$ (left) & 1.3 (bottom) (analysis done this week!)





Proposed Measurement

- Push The Limits of the x = 1.3 Data, $Q^2 = 3.5$ $[GeV/c]^2$
  - Correlations
  - High Momentum Components
- Classic Hall A Measurement
  - Fixed (q,w) [i.e. left spectrometer is fixed]
  - Right HRS Covers Angles Greater Than The q-vector
  - Extremely Clean Coincidence Data

Kinematics for 5.2 GeV Beam

p_m	E_f	ϑ_e	$\|\vec{q}\|$	p_f	ϑ_p	ϑ_{pq}	ϑ_{nq}
0.5	3.815	24.13	2.358	2.041	51.53	10.11	45.78
0.6	3.815	24.13	2.358	1.985	53.89	12.48	45.63
0.7	3.815	24.13	2.358	1.922	56.20	14.79	44.48
0.8	3.815	24.13	2.358	1.852	58.48	17.07	42.80
0.9	3.815	24.13	2.358	1.777	60.75	19.34	40.82
1.0	3.815	24.13	2.358	1.696	63.03	21.61	38.66

- Standard Hall A Spectrometer Configuration
- 15cm LH_2 Target @ 100 uA
- Errors Are Statistical

Summary

- Quest for Reaction Mechanism Free, High P_m D(e,e'p) Data
  - Correlations (note similar kinematics to approved ^{4}He(e,e'pn) exp.)
  - High Momentum Components of the NN Wavefunction
- Exteme Kinematics For Hall A HRS
- Well Defined (**q**,w)
- 17.1 PAC Days