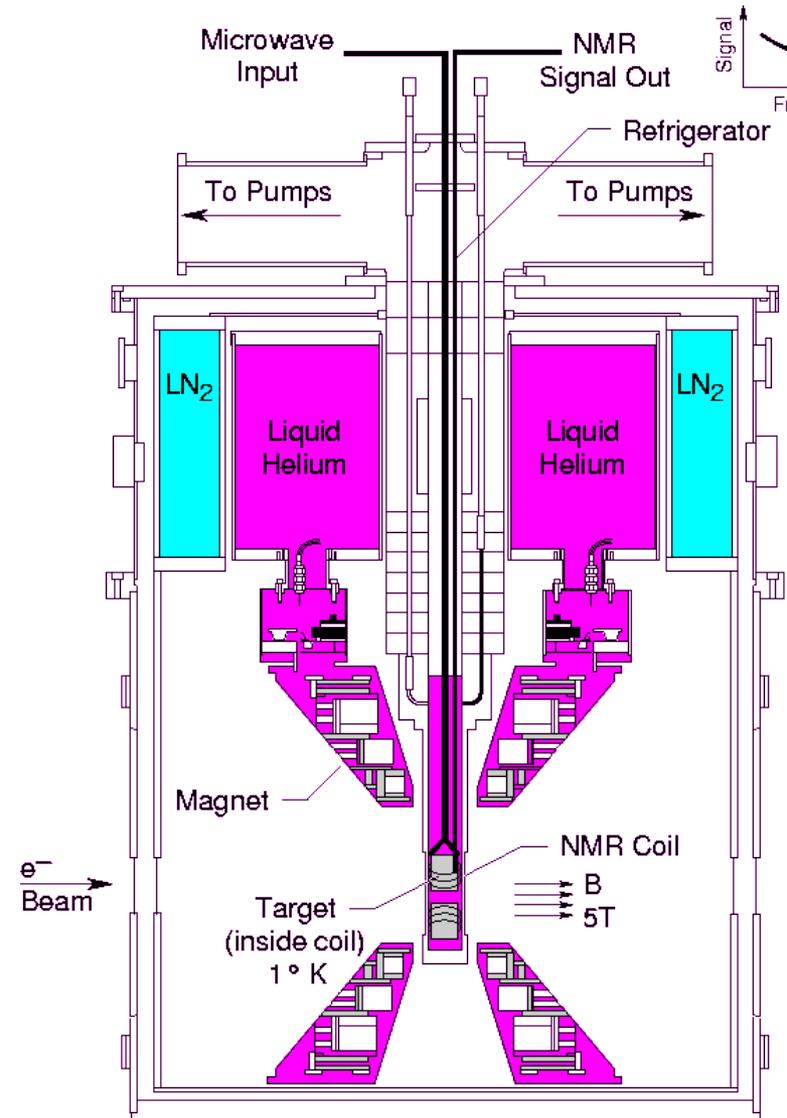
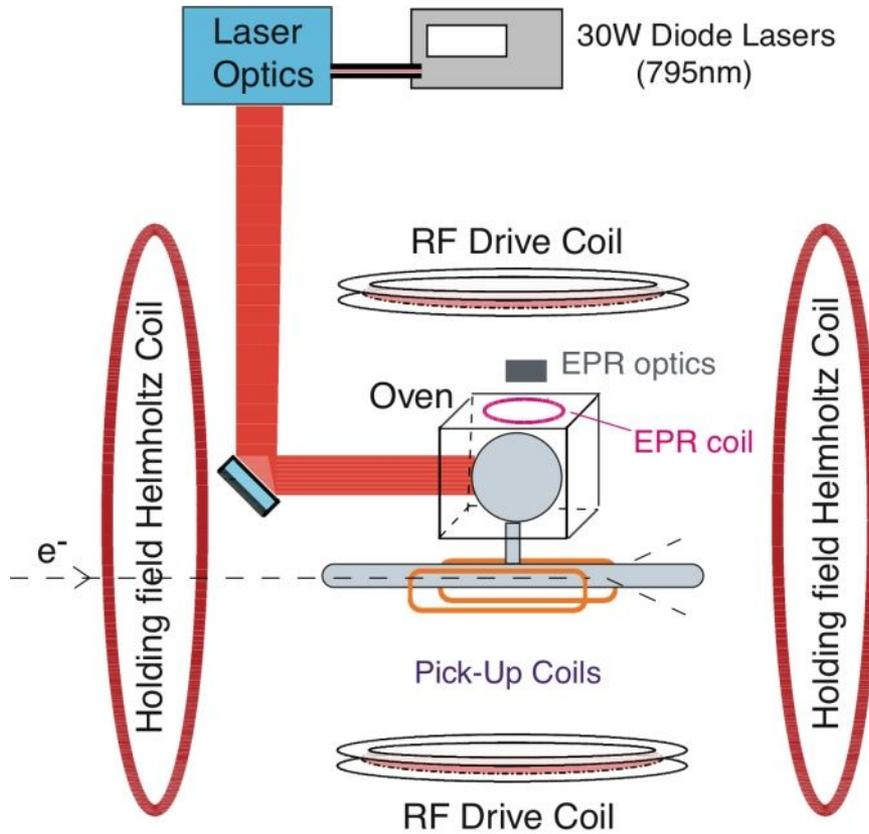


# Workshop on High Luminosity Polarized Targets for the 12 GeV Era

June 17-18, 2010



# Goals of Workshop

Identify possible solutions for a Hall C Polarized  $^3\text{He}$  target

Develop plans for the implementation of a polarized  $^3\text{He}$  target in Hall C

Gather ideas of additional measurements in Hall C/A with the polarized  $^3\text{He}$  target

Gather Ideas of possible measurements in Hall C/A with the polarized  $\text{NH}_3/\text{ND}_3$  target

In the spirit of complementarity to Halls A and B

# Personal Goals

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Understand infrastructure requirements of polarized  $^3\text{He}$  target

Identify possible physics drivers for higher density targets

Discuss Hall C role in developing higher density  $^3\text{He}$  targets

Discuss possibility of  $\text{NH}_3/\text{ND}_3$  target re-use in Hall C

# Hall C 12 GeV Experiments

- E12-06-110:  $A_1$  Conditionally Approved

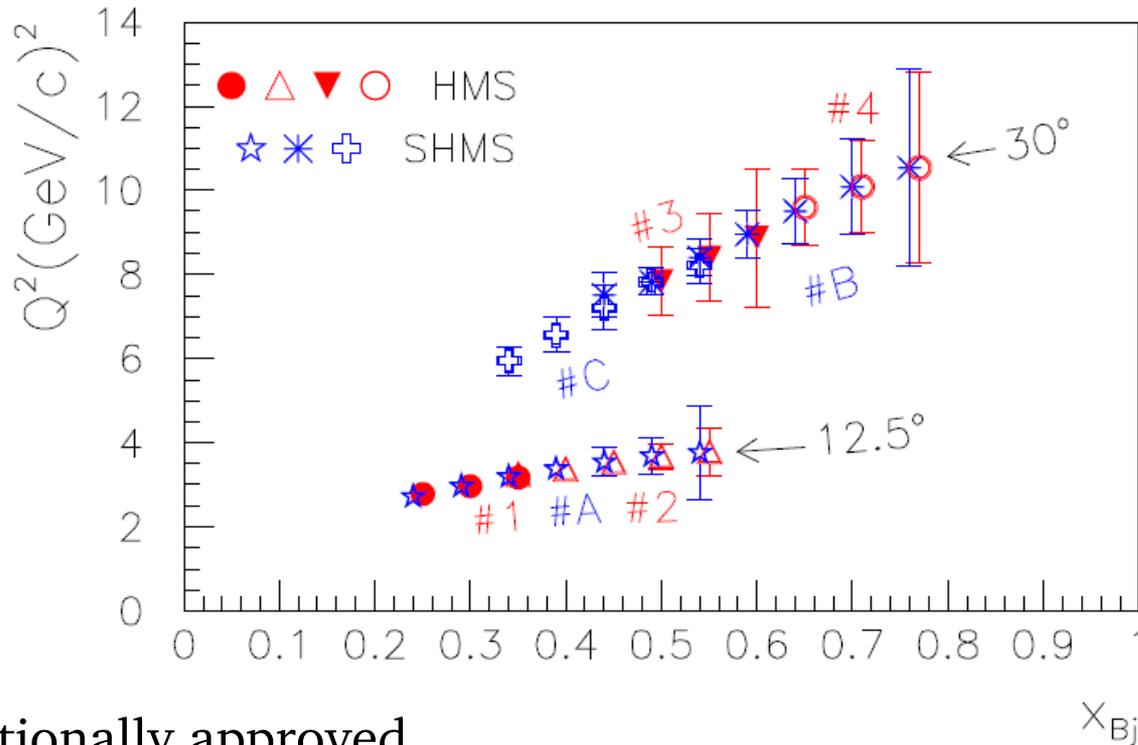
Grading review  
this PAC

- E12-06-121:  $g_2$  Approved

- LOI InCas – Low  $Q^2$   $G_M^n$

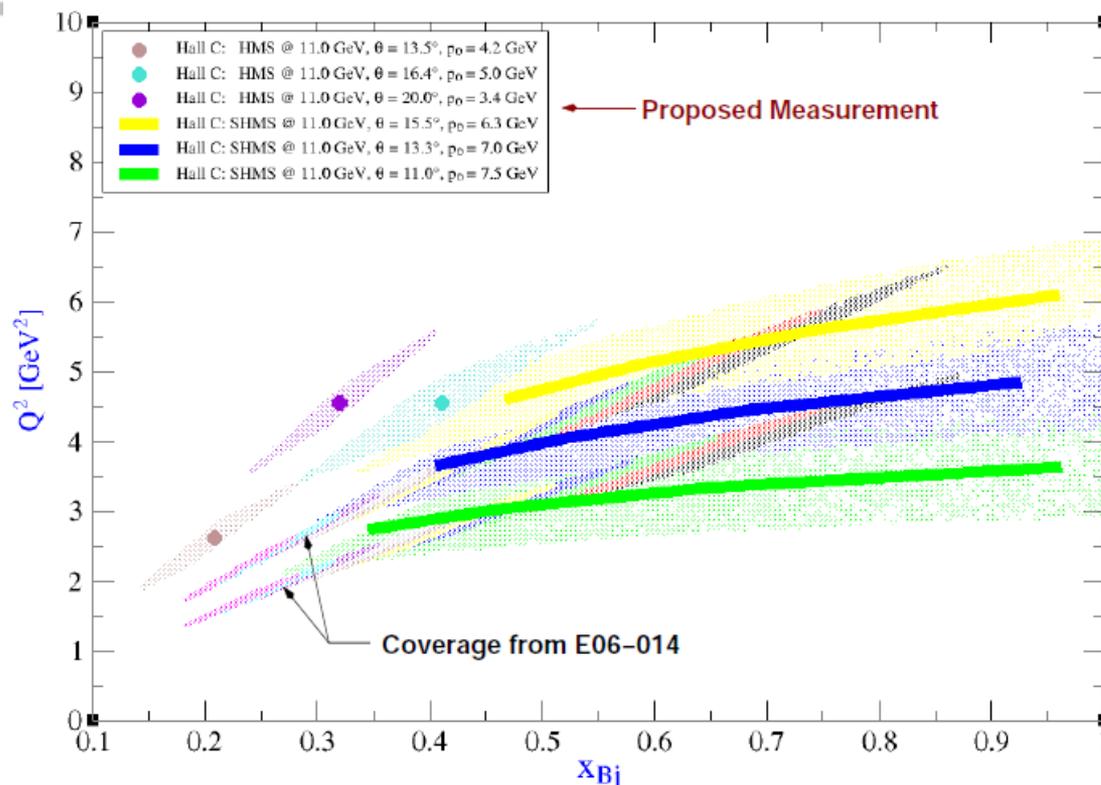
- Other proposals expected next full PAC

# E12-06-110 - A<sub>1</sub><sup>n</sup>



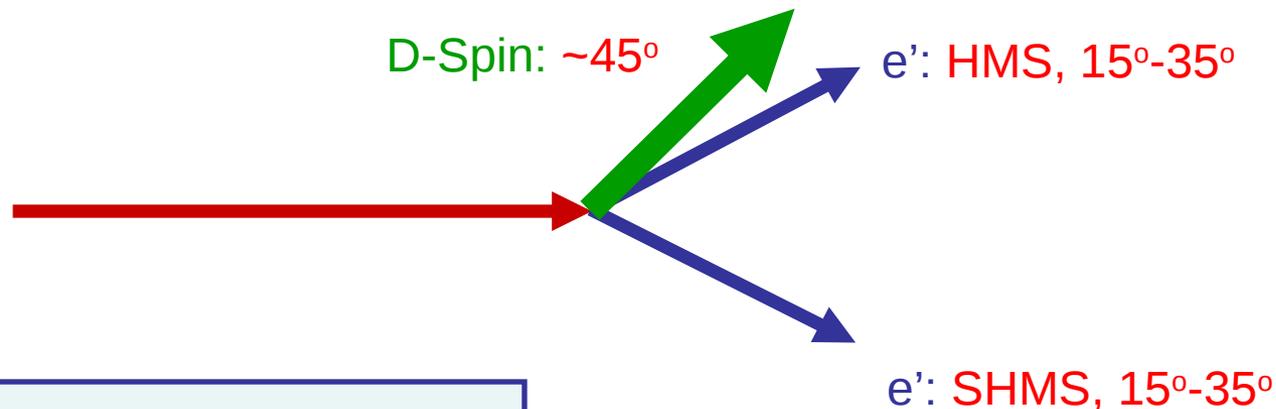
- Conditionally approved
- Beam time request 52.6 days, 41 days for highest  $x$
- Assumes 15uA, 40cm cell, P=50%. Density?
- PAC suggests do with Hall A/Bigbite.
- Not rate limited in Hall C, does higher density make C more compelling

# E12-06-121- $g_2^n, d_2^n$



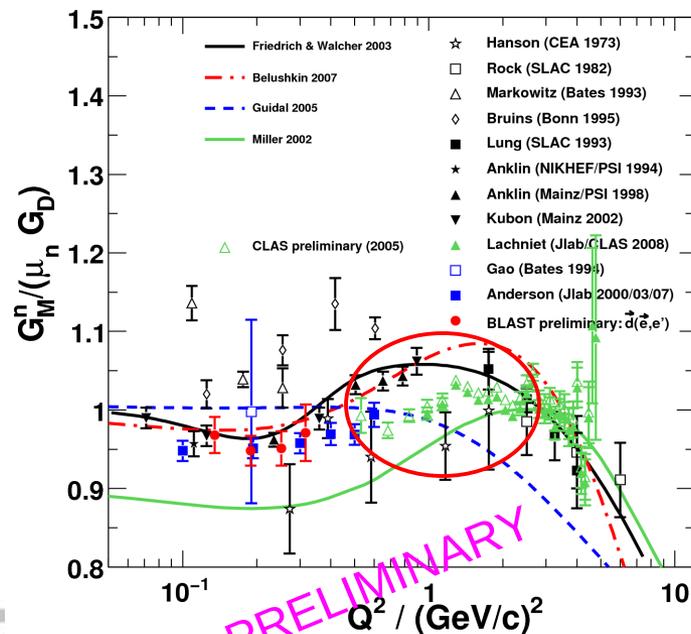
- Approved (grading this PAC)
- Beam time request 29 days, 25 for data taking.
- Assumes 15uA, 40cm cell, P=50%? Density 12 amg
- Not rate limited in Hall C. could benefit from higher IP<sup>2</sup>

# IncAs – $G_M^n$ at intermediate $Q^2$



$$\frac{A_\perp}{A_\parallel} \approx \frac{\kappa \frac{G_E^p}{G_M^p}}{1 + \left(\frac{G_M^n}{G_M^p}\right)^2}$$

- LOI-09-003
- Uses  $\text{NH}_3/\text{ND}_3$  polarized target



# Beamline upgrade for Compton



Legs of Moller polarimeter now located on platform in Hall C

Downward bend for NH<sub>3</sub>/ND<sub>2</sub> polarized target chicane starts further downstream

Chicane still works for up to 11 GeV beam



# Schedule Overview

Now - May 14, 2012

Qweak running

May 15, 2012 - September, 2012

Qweak and SOS removal

September 2012

Start of SHMS construction

Fall 2014

Start of comissioning



# Notes

- Previous Old Hall C polarized target experiments:
  - GeN
  - RSS
  - SANE
- Thanks to organizers
  - J.P. Chan, Silviu Covrig, Mark Jones, Patricia Solvignon
  - Speakers
  - Participants
- Please give Patricia Solvignon copy of slides