



# **SANE Collaboration Meeting**

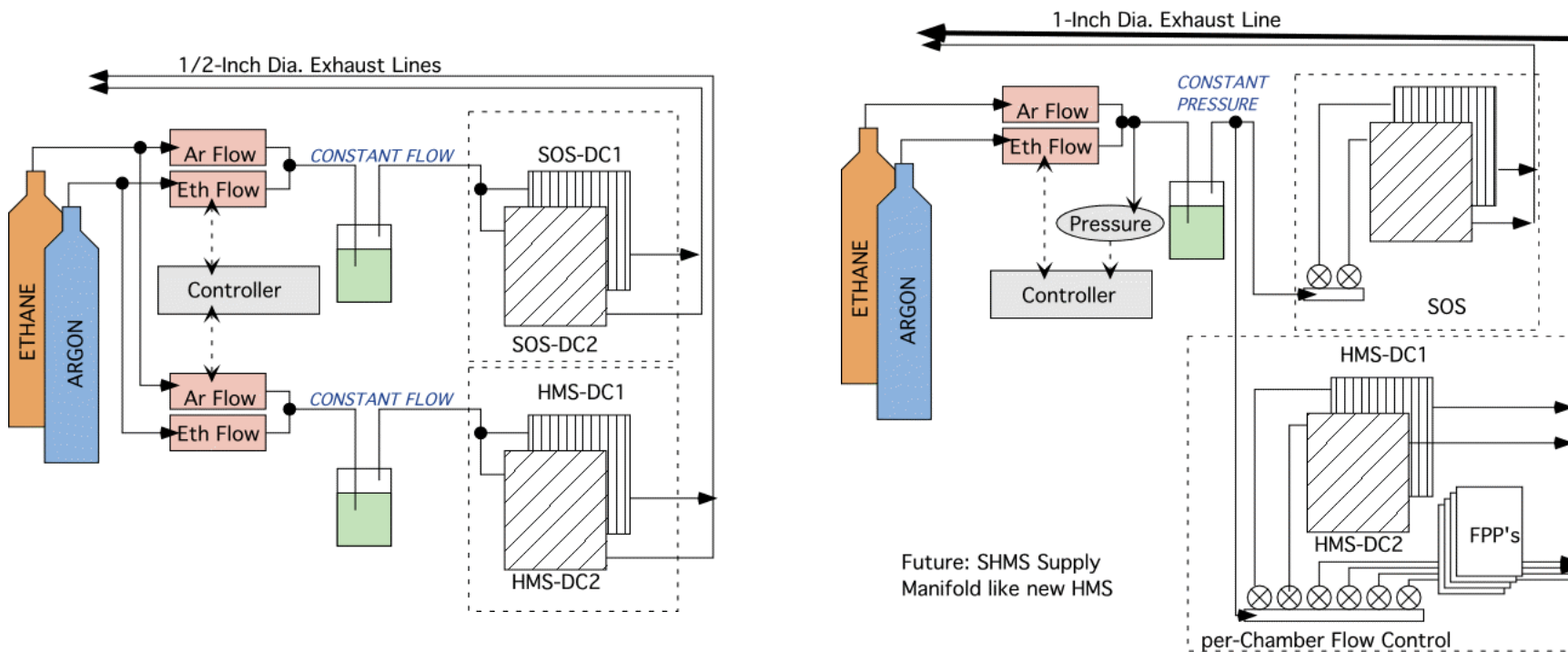
March 30, 2007

# Hall C News

- G0 is done
- SANE Scattering chamber out for bids
- Overhaul of HMS hodoscopes
  - Replaced all tubes+bases
  - Checked light guide joints
- Hall C Gas system upgrade
  - New mixer valve and controller
  - Pressure regulated to hall
  - Independent flows to detector volumes
  - Upgraded exhaust capacity
- HMS control system replacement
  - Modern maintainable hardware/programming
  - CPU/PLC's located outside of hall
  - Model for SHMS controls

# Infrastructure - Hall C Gas System Upgrade

- New mixing valve and controller
- Increases flow capacity: HMS, FPP (in HMS), SHMS, SOS
- Pressure regulated flow to hall.
- Independent flow rate control for each detector volume
- Upgraded exhaust line



# Hall C Approved Experiment Summary



## Base Equipment Experiments (2.6 experiments, 25 days):

E04-001	Measurements of $F_2$ and R on Nuclear Targets	3 days (0.6)	B+
E05-017	Measurement of Two-Photon Exchange in Unpolarized Elastic e-p Scattering	13 days	A-
E06-009	Measurement of $R = \sigma_L / \sigma_T$ on Deuterium in the Nucleon Resonance Region and Beyond	9 days	A-

## Large Installation Experiments beyond G0 (10 experiments, 215+ days):

(308 days with Qweak Phase-II)

E04-108	Measurement of $G_E^p / G_M^p$ to $Q^2 = 9 \text{ GeV}^2$	40 days	A
E04-019	Measurement of the Two-Photon Exchange Contribution in e-p Elastic Scattering Using Recoil Polar.	18 days	A-
E07-002	Polarization Transfer in Wide Angle Compton Scattering	3 days	B
E03-109	Spin Asymmetries on the Nucleon Experiment	27 days	A
E04-113	Semi-Inclusive Spin Asymmetries on the Nucleon	25 days	A-
E05-101	Helicity Correlations in Wide-Angle Compton Scattering	14 days	A-
E07-011	A High Precision Measurement of $g_1^d / F_1^d$	8 days	A
E05-008	The Qweak Experiment: A Search for Physics at the TeV Scale via a Meas. of the Proton's Weak Charge	35+ days	A
E04-110	The Neutron Electric Form Factor at $Q^2 = 4.3 \text{ GeV}^2$ from the $D(e, e'n)$ Reaction via Recoil Polarimetry	25 days	A-
E05-115	Spectroscopic Investigation of Hypernuclei in ... (II)	20 days	A-

*Cobrowsing indicates experiments using similar apparatus*



# Near term schedule - 2007

From Published schedule:

Apr 28 E04-001  $R = \sigma_L / \sigma_T$  in A up to  $Q^2 = 4$

- E06-009  $R = \sigma_L / \sigma_T$  in D up to  $Q^2 = 4$

June 28 E05-017  $2\gamma$  Exchange in ep Rosenbluth Separation

Previously threatened 6 month down averted.

Tentative:

Oct 1 BigCal Commissioning

E04-019  $2\gamma$  Exchange in ep Polarization Transfer

2008 6 week down for energy upgrade -> 5.7GeV

E04-108  $G_e^P / G_M^P$  up to  $Q^2 = 9$  (GeP-III)

# SANE Tentative plans

Earliest possible start of SANE installation, late April 2008.

Assuming 2 month installation, earliest start date for SANE:  
Late June, 2008.

Currently assuming 70 days for commissioning and running.

Beyond SANE experiments, Hall C must run at least hypernuclear experiment and Qweak. Currently in discussion with management to see if these can fit leaving some safety margin after Qweak and before 12 GeV.

Not feasible to do all Polarized Target/BETA experiments after SANE. Soliciting input on what to run if we can fit in one more experiment:

Options:

WACS (E05-101)	14 days
g1d/F1d + deuteron part of semi-SANE	19 days

# Parasitic running

SANE has generous commissioning.

IF (a big if), setup and commissioning go well, would like collaboration to consider running parasitic physics using HMS in coincidence. Transversity?

SANE proposal is obviously the priority, but would like to have plans to squeeze as much physics possible from run, particularly if SANE is only Poltar/BETA run.

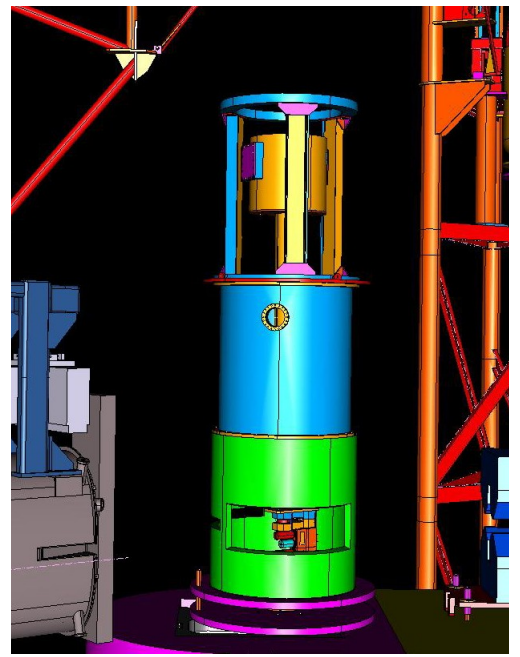
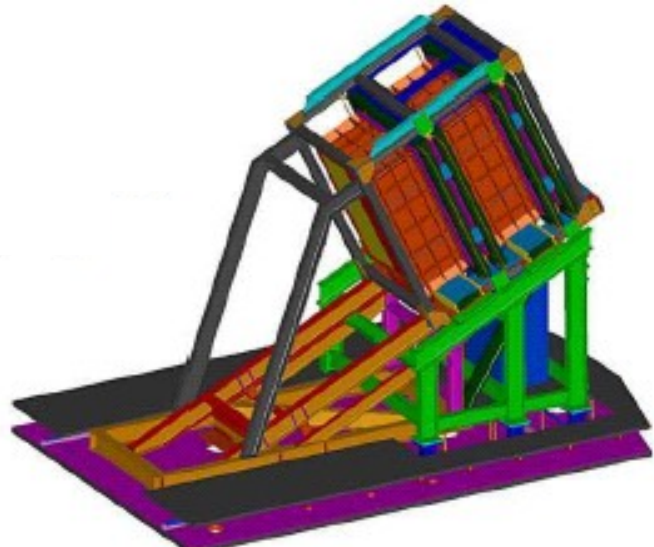
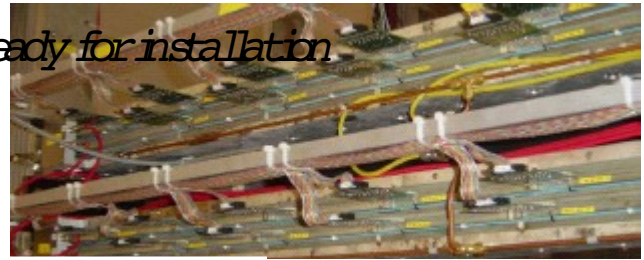
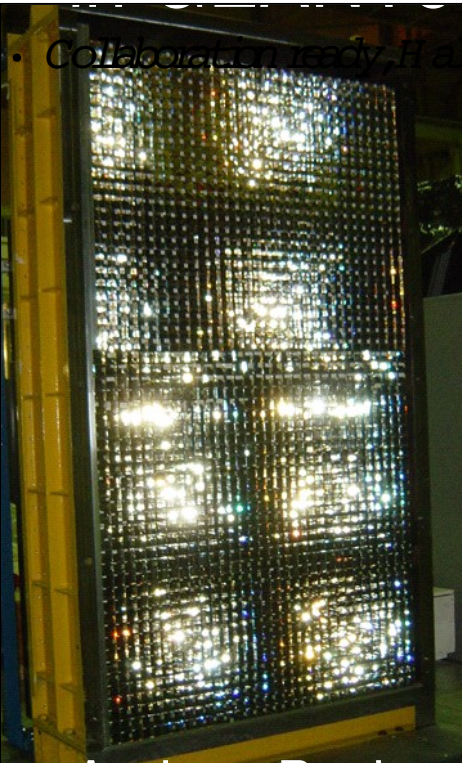
# SANE Readiness Review

- Eugene Chudakov will chair the review
- Chair prefers review in early July. Is this OK?
- Hall Leader will finalize in April in coordination with spokespeople, chair and potential reviewers



# ***GEp-III Status ( $G_E^p/G_M^p$ up to $Q^2 = 9 \text{ GeV}^2$ )***

- Large Calorimeter: Cosmics testing finished (Piovano, W & M, ...)*
- FPP: Chambers assembled, resolution & HV testing in final stage (Dubna, NSU)*
  - Add dedicated trigger scintillator plane (Tel Aviv)*
  - Support frame test fitted, new gas handling system under construction*
  - F1TDC's integrated*
- Scattering chamber delivered: larger opening for BigCal, compatible with HALLA*



*• Collaboration ready, HALLC ready for installation*