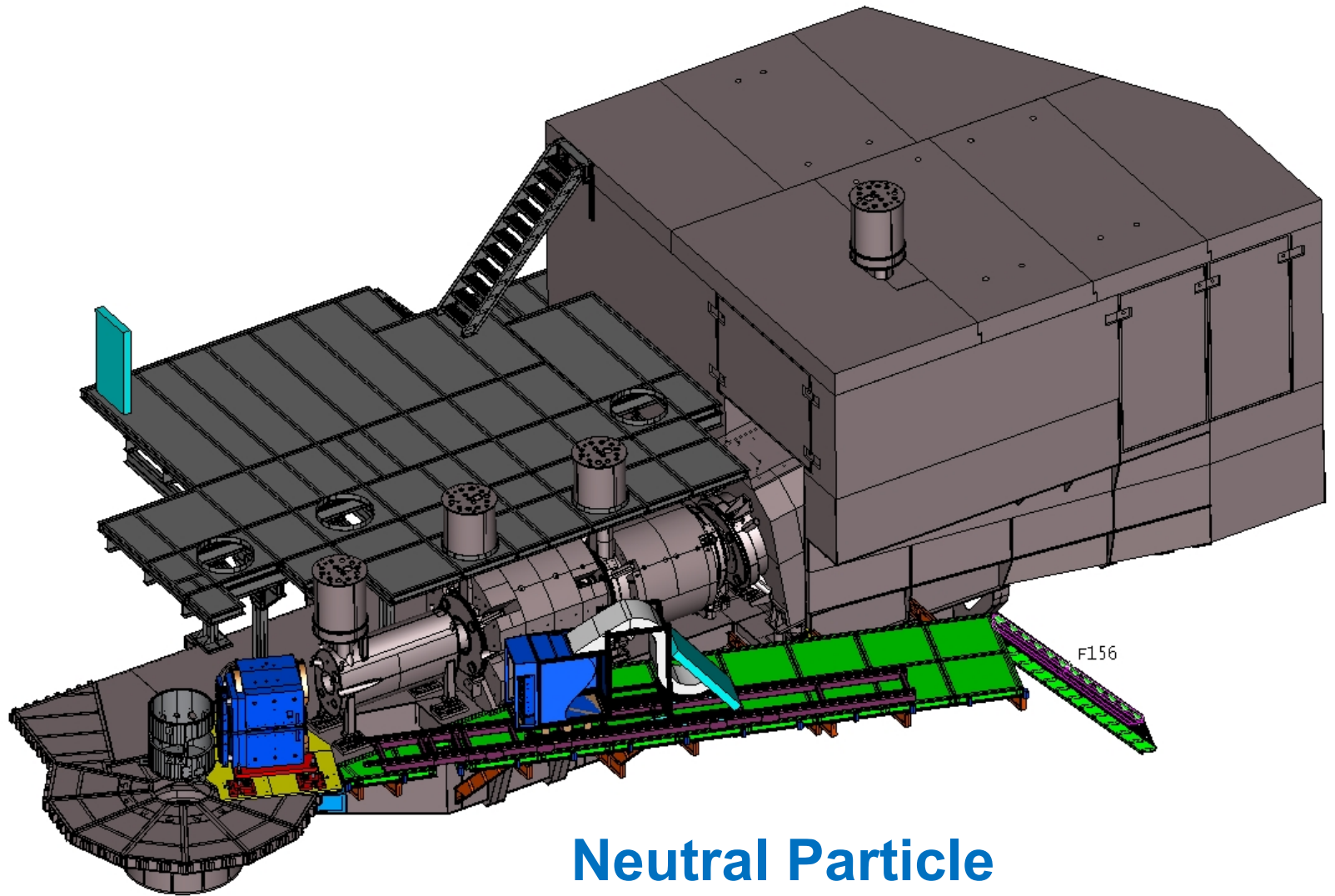


# Hall C Status – February 2021



## Neutral Particle Spectrometer

# NPS Support Structure Parts

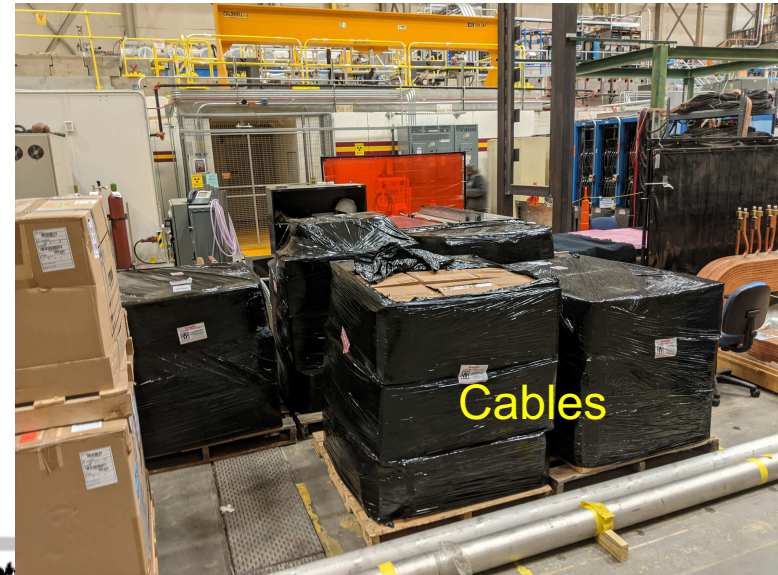


Thomas Jefferson Nat

# NPS Frame

NPS Calorimeter frame fabricated at Orsay.

Now at JLab in Test Lab



# High Momentum Spectrometer

HMS is over 25 years old

Remains critical element of 12 GeV program

$P \leq \sim 7.4 \text{ GeV}$

New quadrupole power supplies delivered

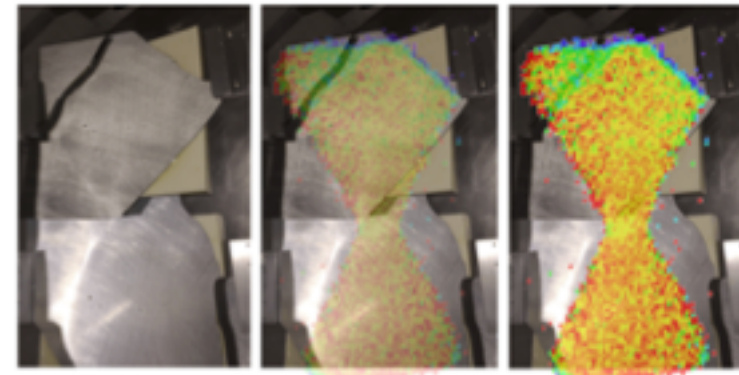
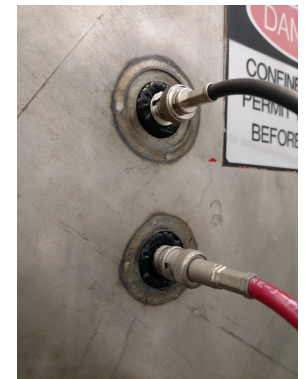
Hodoscope replacement underway

New drift chambers for 12 GeV

Cherenkov light leak (250 Khz) repaired (2020)

Broken Cherenkov mirrors repaired (2018)

Aerogel needs new tubes



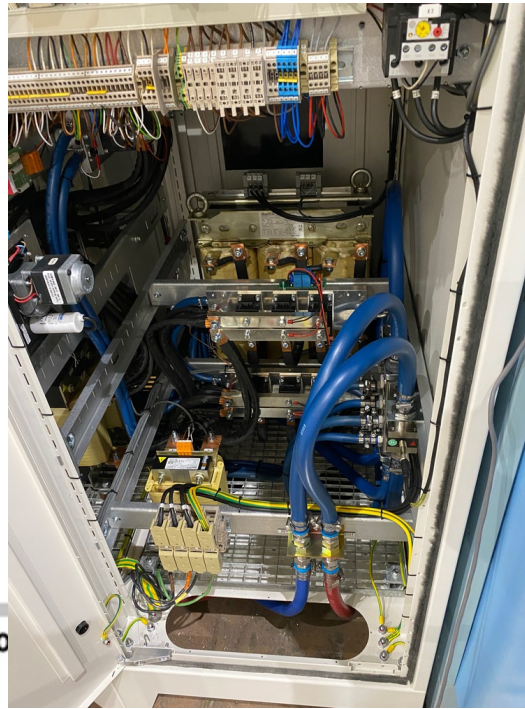
# HMS Quadrupole Power Supplies

Three new HMS quadrupole power supplies from Danfysik delivered

Replacing 25+ year old supplies

Remote polarity reversing will be restored

Testing underway



# HMS Hodoscope refurbishment

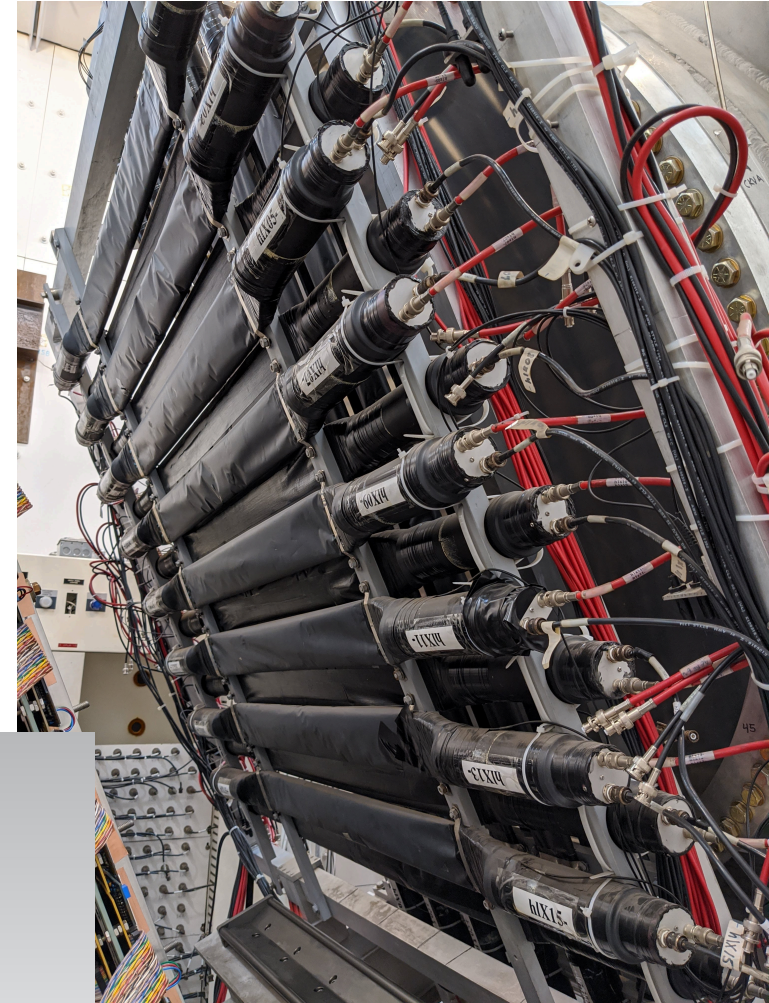
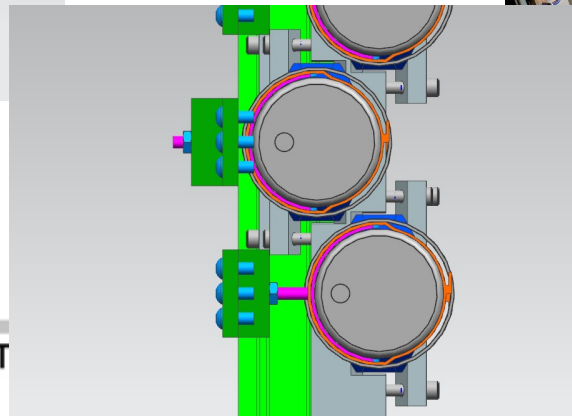
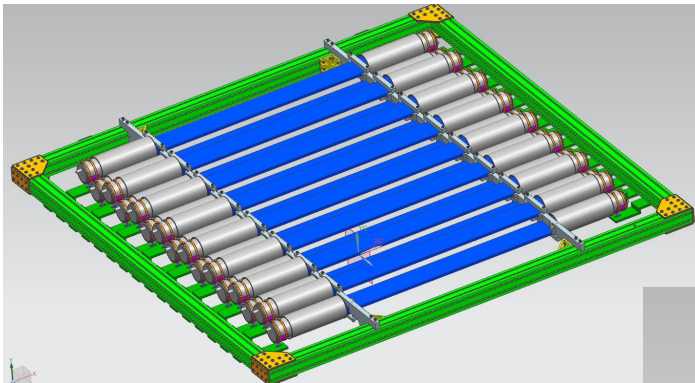
HMS hodoscope:

>25 year old plastic

~15 year old tubes

New tubes, scintillator light guides

New frame



# HMS Hodoscope refurbishment

New hodoscope frames designed

New tubes and plastic delivered

Dipole fringe fields measured at hodoscope PMT locations. Maximum seen is 3 gauss with dipole @ 2750A. ( $> 7.2 \text{ GeV}/c$ )



# Hall C – 2020

Fall 2019

Polarized  $^3\text{He}$  target installed

Spring 2020

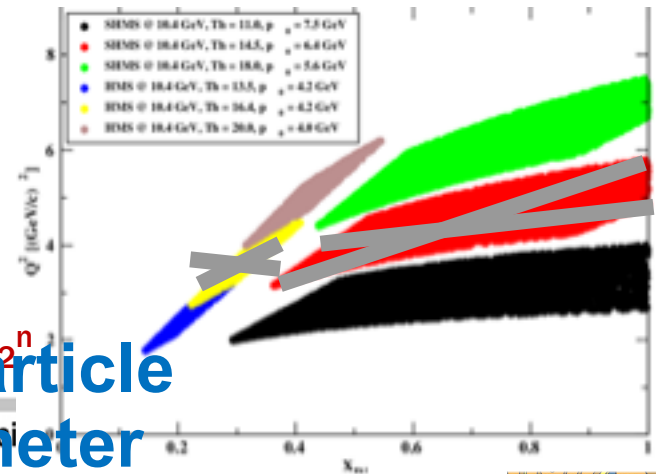
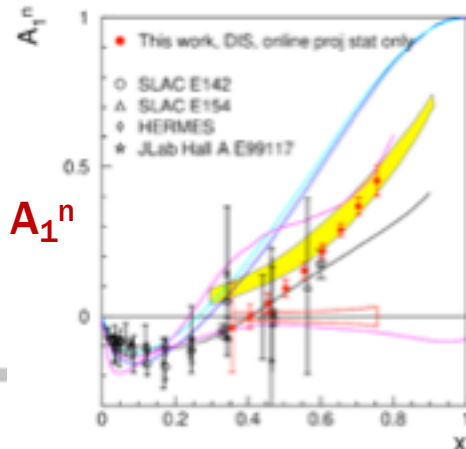
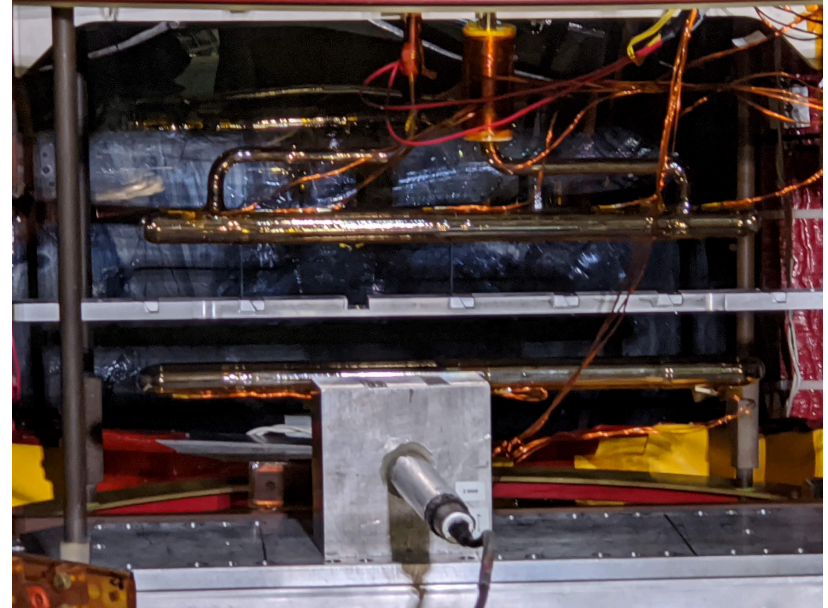
E12-06-110  $A_1^n$  run

E12-06-121  $g_2^n/d_2^n$  setup  
interrupted by MEDCON6

August/September 2020

E12-06-121  $g_2^n/d_2^n$

E12-06-121A  $^3\text{He}$  elastic asymmetry



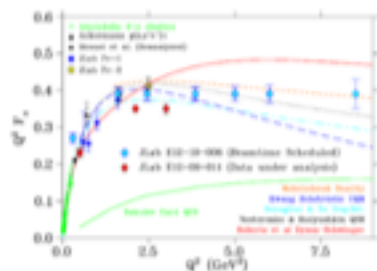
Neutral Particle  
Spectrometer



# Scheduling in the nearish term

- A new NPES schedule is underway to go up to 12/2022
- Uncertainties in budgets, run weeks, approvals and bears oh my... here's a general approach:
  - Complete high impact running, 2 (4) experiments
  - Try to get as much synergistic science in as possible, *i.e. shared configuration*
  - Try to provide data for variety of groups/interests/topics
  - 2023 (and beyond!) more open, could start NPS or LAD or continue standard configuration

See talk this afternoon!



May – [December?] 2022  
Add in  $x > 1$ , EMC, CaFe, NucR

Combine earlier?  
Some challenges to  
make target common



2023 –  
Advice?  
Be ready!

August – December 2021,  
Low base energy –  
facilitates L/T separations  
Pion form factor and scaling  
combined experiment

Prepare for  
discussion!

# Hall C – 2021+

Oct 2020 – June 2021

Scheduled Accelerator Down

Hall Maintenance

June 21–Oct 11, 2021 (moving to August – December)

E12-19-006 **Excusive  $p(e, e'\pi^\pm)$  LT separated cross sections (PionLT)**

**Scaling and Pion Form Factor**

**(was E12-06-101 and E12-07-105)**

**Beam Energies 9.2, 8.0, 9.9, 6.0 GeV**

2022 (May-Dec?)

Standard equipment solid and cryotarget experiments

CaFe, EMC,  $x > 1$ , NucR, PionLT ... ?

2023

*Or extra DVCS days*

**NPS? DVCS/SIDIS and Wide Angle run groups (71 PAC days) + LAD?**

2024

**Standard equipment?**