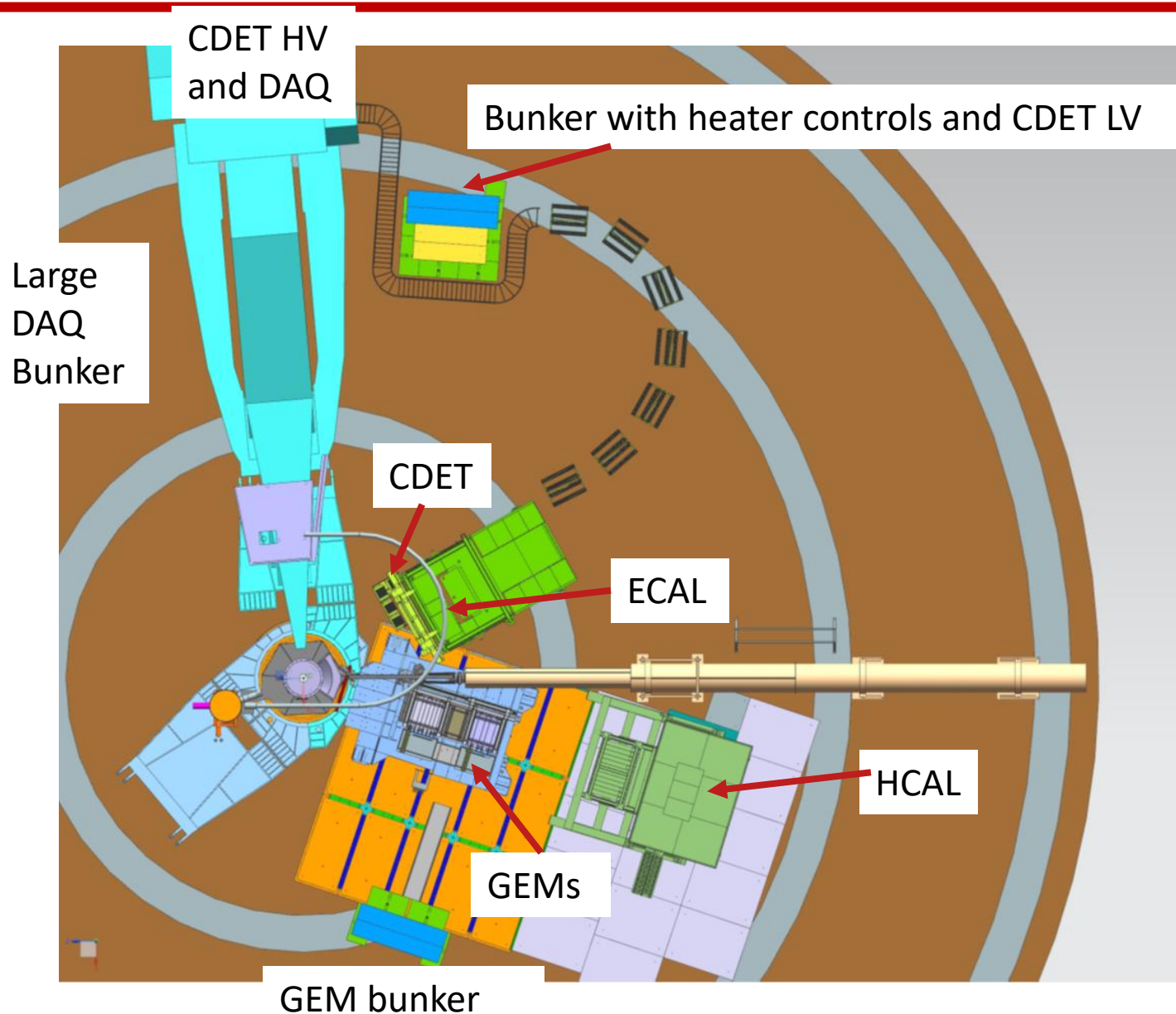


Hall A Status



Jab 2025 SoLID Collaboration Meeting

Overview of detectors:



Electron Detection

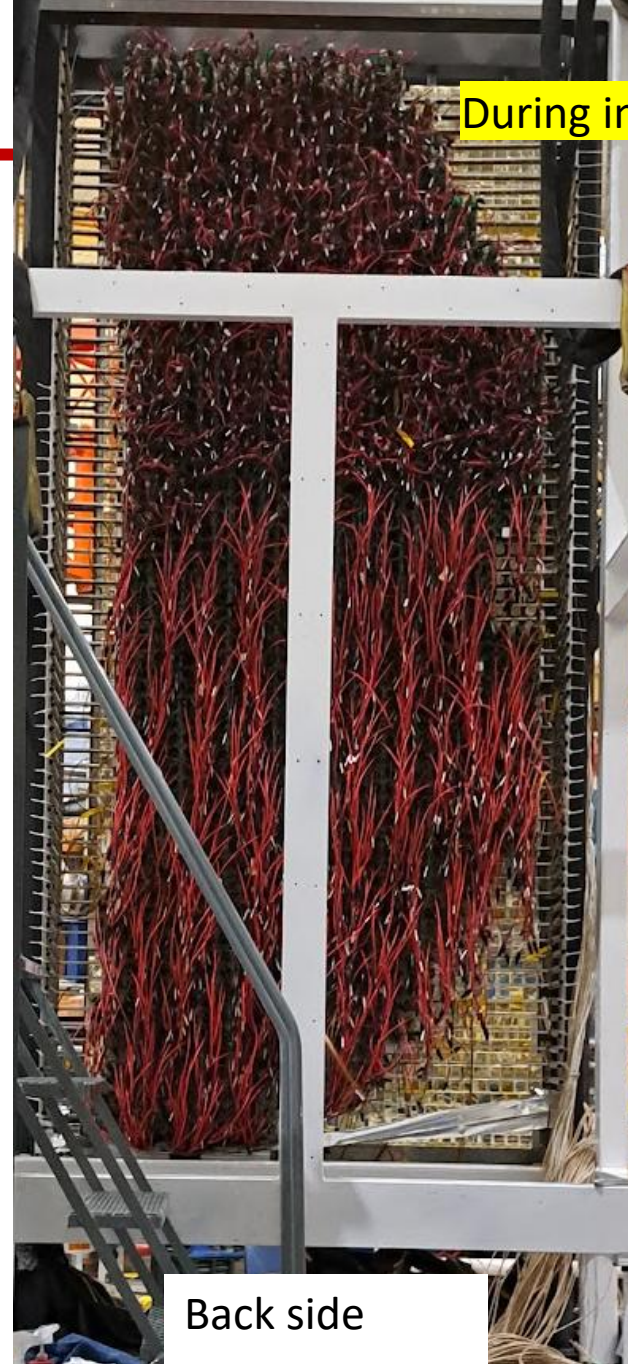
- Electron Calorimeter (ECAL)
 - 1656 Lead glass blocks
 - Trigger formed in FADC from clusters
 - Need good energy calibration at FADC
 - Tight cut on elastic to reduce accidentals
 - Measure angle and energy
- Coordinate Detector (CDET)
 - 2352 scintillator bars
 - Measures vertical angle
 - Aids track finding in front GEMs
 - Reduce the photon background

Proton Detection

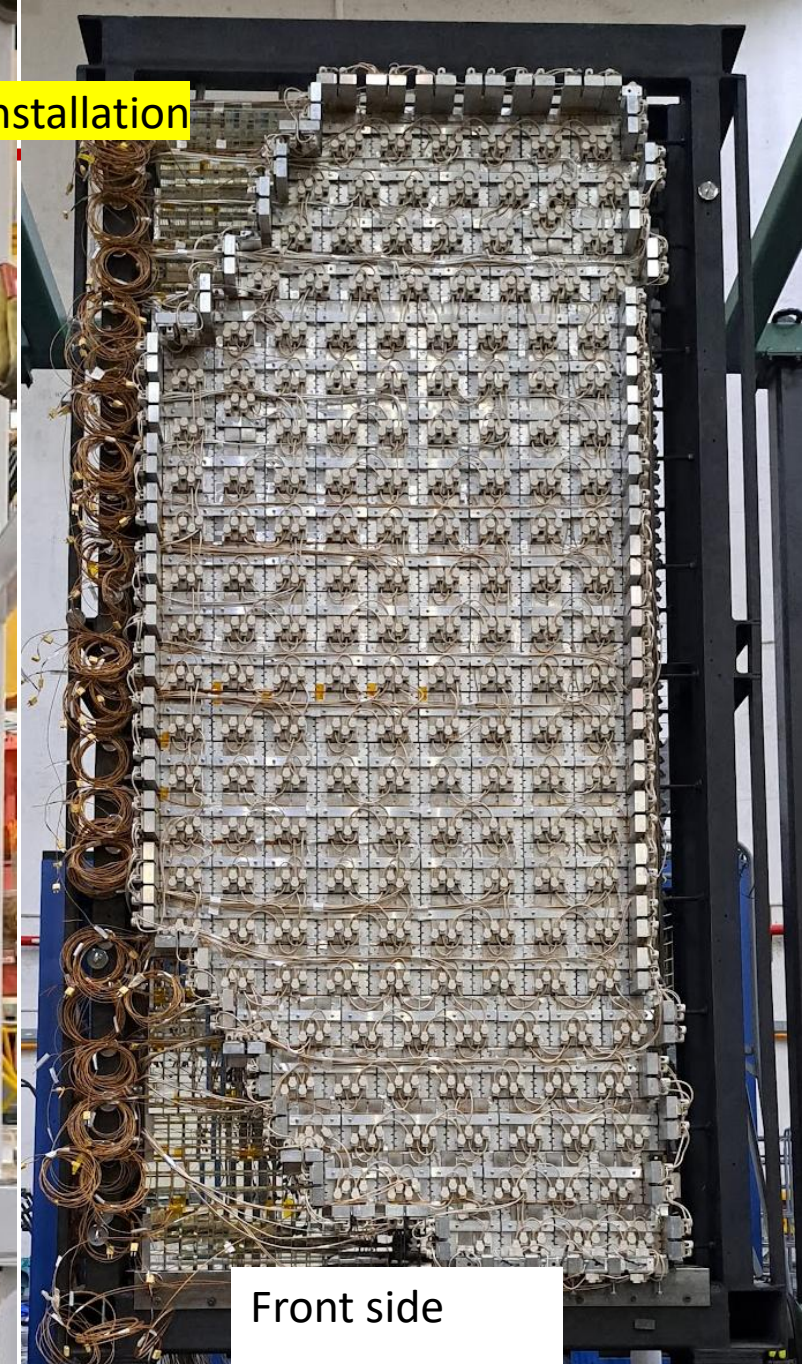
- GEMS Front and rear tracker
 - Each 8 layers of GEMs
 - Measure momentum, z-target, angles
 - Plastic analyzer for rescattering protons
 - Measure the recoil polarization of protons
- Hadron Calorimeter (HCAL)
 - 288 iron/scintillator blocks
 - Trigger formed in FADC from clusters
 - Aids track finding in rear trackers

ECal design

- 1656 lead glass crystals
- Purpose of ECal is to reduce trigger rate with tight conditions based on position and energy
- Crystals heated to continuously anneal from radiation damage:
 - 210 °C (front) to 180°C (back)
 - Controls and monitoring software developed by DSG require little oversight: alarms monitor temperatures and hardware/software activity while process controllers turn off heaters if unsafe conditions detected



Back side



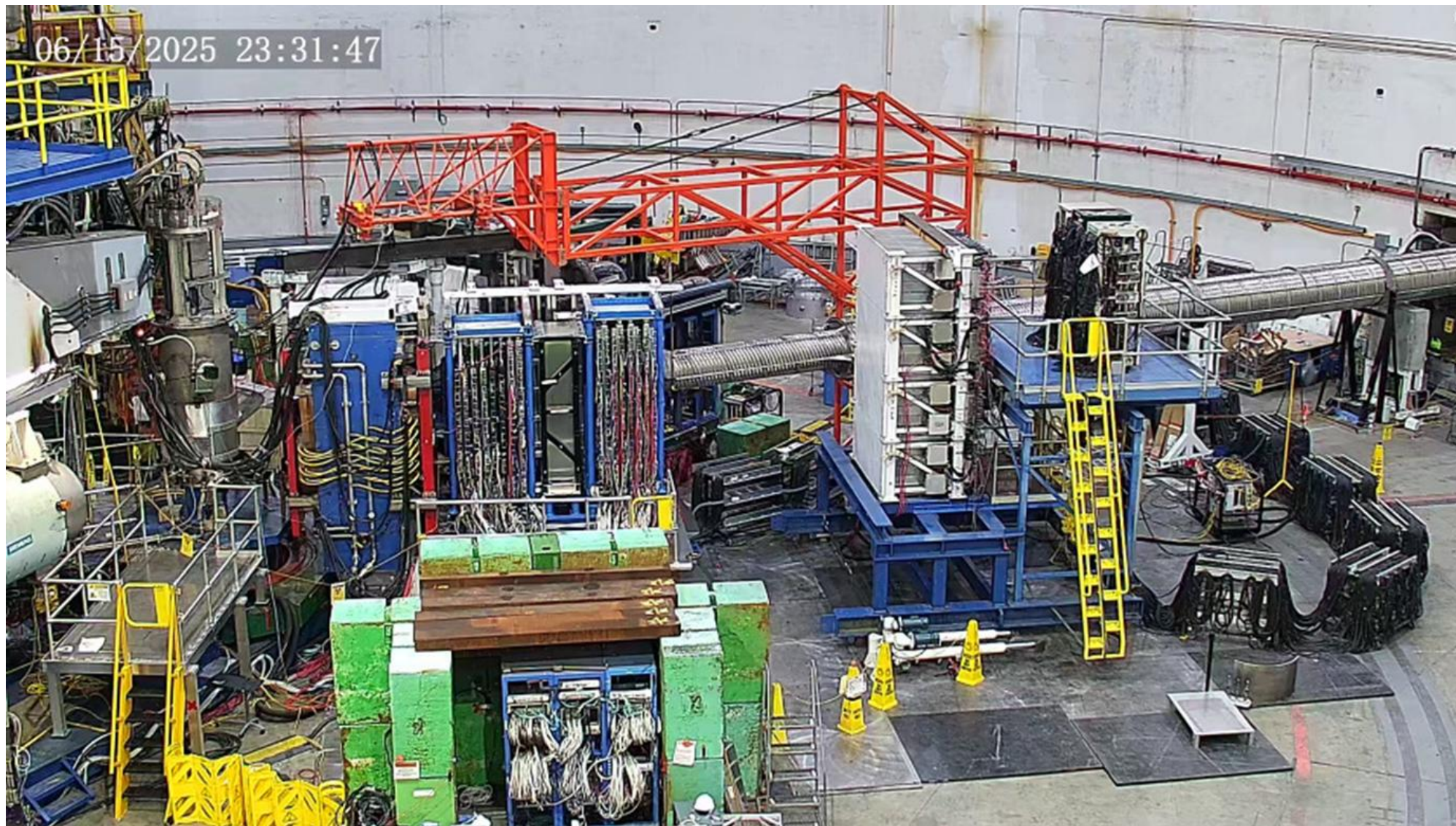
Front side

ECal design

- 1656 lead glass crystals
- Purpose of ECal is to reduce trigger rate with tight conditions based on position and energy
- Crystals heated to continuously anneal from radiation damage:
 - 210 °C (front) to 180°C (back)
 - Controls and monitoring software developed by DSG require little oversight: alarms monitor temperatures and hardware/software activity while process controllers turn off heaters if unsafe conditions detected
- Rear enclosure cooled with 3 16000BTU air conditioners to keep it below 50 °C



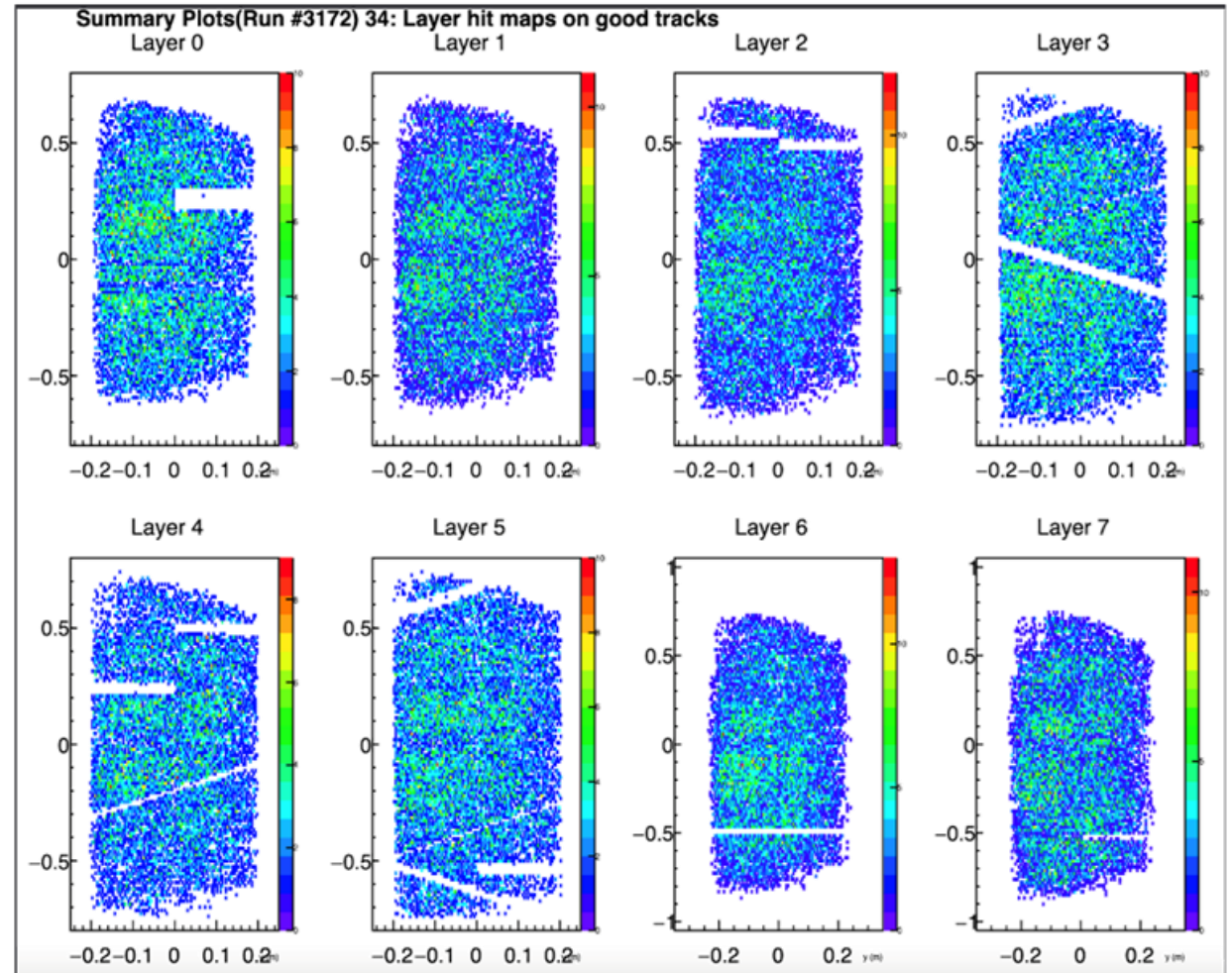
SBS GEM Chambers for FPP



GEM tracker status

Overall performance of SBS Front & Back Trackers

- The SBS GEM tracking system includes:
 - Forty-six (46) GEM modules
 - Front trackers: 6 GEM layers of 40 x 150 cm and 2 GEM layers of 60 x 240 cm
 - Back trackers: 8 GEM layers of 60 X 200 cm
- The SBS GEMs are operating at rate much higher than any other experiments
 - Both front and back trackers are performing well
 - A few dead areas caused by dead high voltage sectors and faulty electronics
 - Since the beginning of the GEp, only about 7 sectors out of 1560 sectors were lost



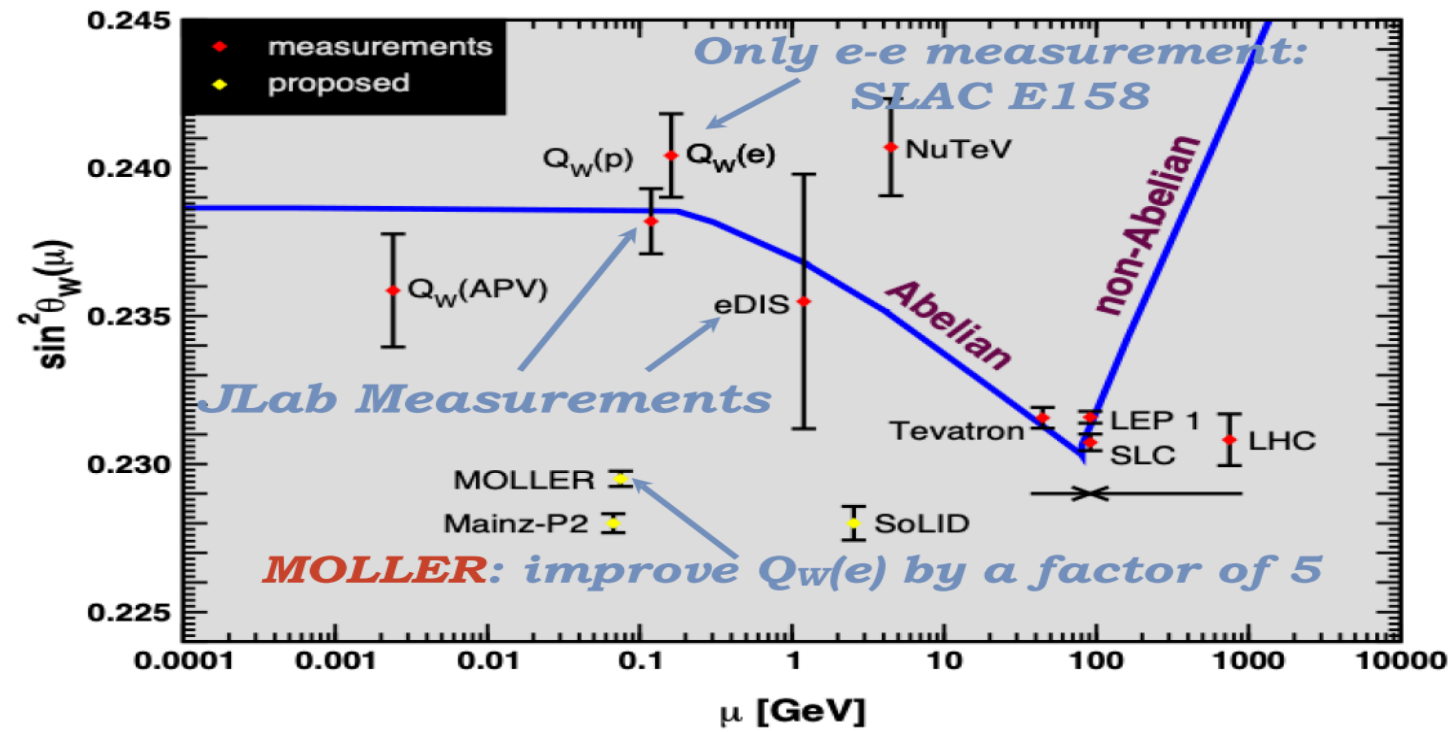
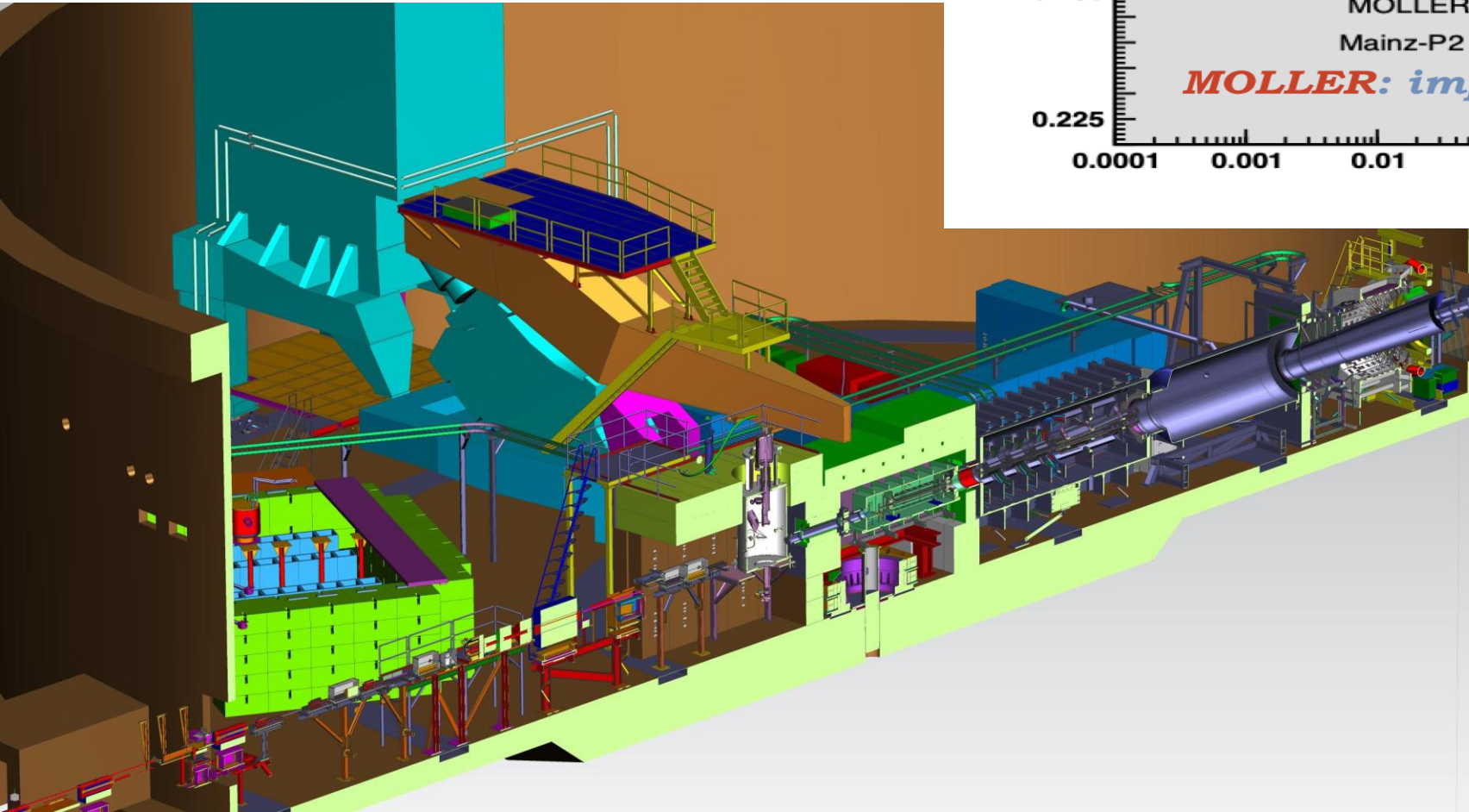
Hit map on 8 GEM layers of the front tracker

Status of GEp experiment

- Commissioning with 3 pass from April 11-17.
- Production with 3 pass from April 17-28.
- Changeover to 5 pass configuration from April 28 – May 5th (one week)
- Production at 5 pass started May 5th.
 - Had decided earlier to lower Q^2 to 11.1 GeV² from the original $Q^2 = 12$ GeV². This increases rate by factor of 4.
 - Linear gain in the GEMs by adjusting HV of GEM foils up to beam currents of 35uA.
 - High occupancy of 43-50% at 25uA and 37-42% at 20uA.
 - Would like to get 100C , so have decided to run at this kinematics until end of run period
 - Remaining 56 days at 60% ABU efficiency and 20uA then would give addition 58C.
- GEp experiment will end on Aug 25th at 7am.
 - Start the SBS deinstall and MOLLER install.

MOLLER Project

- MOLLER install starts Aug 25th
- See recent MOLLER collaboration meeting to get status of detectors and spectrometers

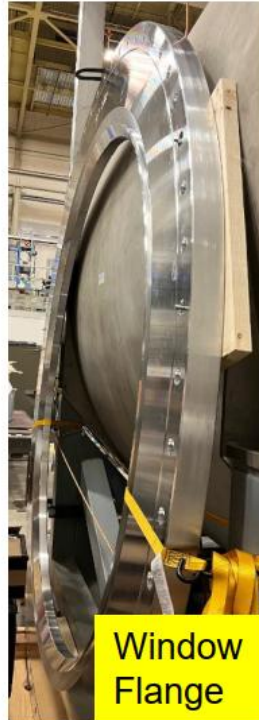


MOLLER equipment in the TestLab



MOLLER updates

- Completed applying epoxy to belly plates of SC1, SC2 and SC3 coils
- Loaded six SC1 coils into TM1 frame and three SC2 coil into TM2 frame **and** did some learning survey work on a TM1 magnet
- Practiced brazing and soldering copper coupons with heavy walls; coupon produced by Ashanti Richeson was sent to Testing Company for qualifying WPS/PQR **IT PASSED !**
- Soldered, brazed and leak tested the water feedthroughs of TM1-4
- Received and verified thickness of Detector Window panel
- Received and inspected SAM pipe, detector window flange, and window nipple pipe



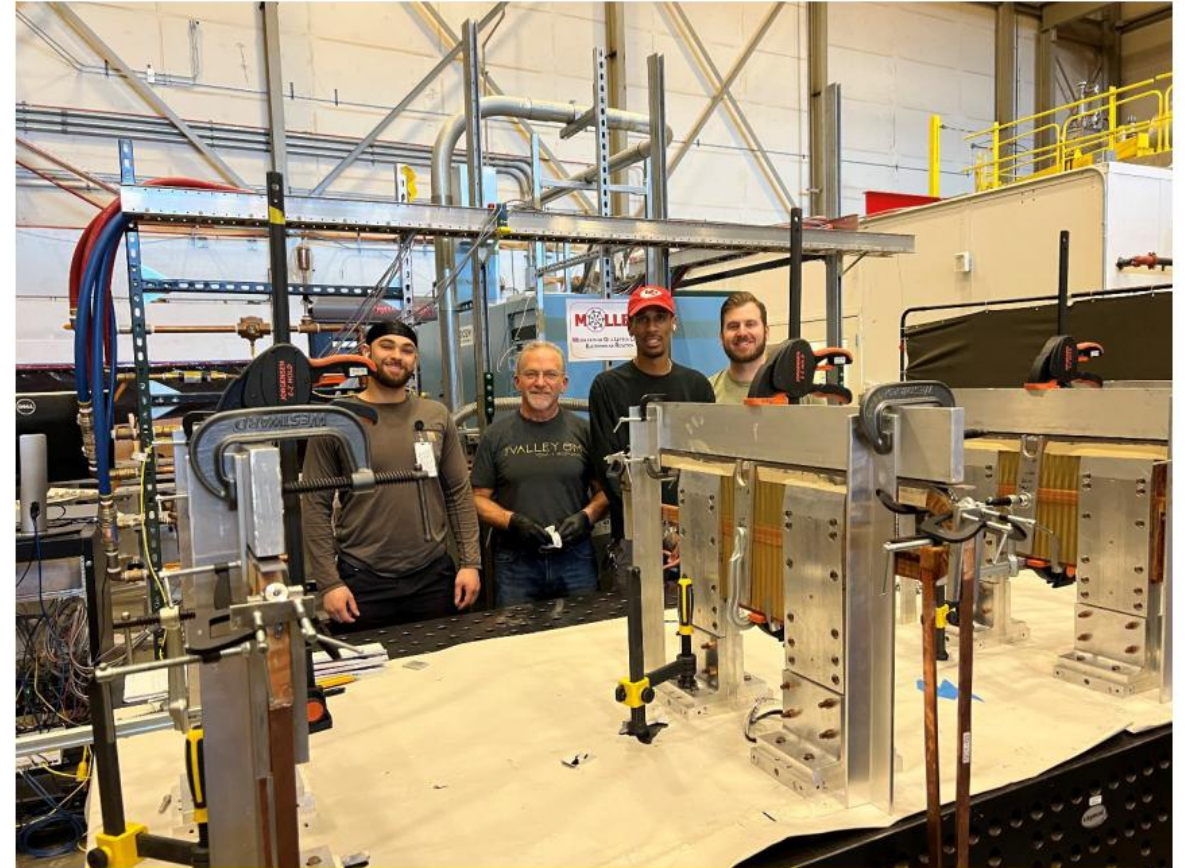
Window Flange



SAM Pipe



Window Pipe Nipple



Epoxy work on belly plates of three SC1 coils

MOLLER updates

Loading Six TM1 Coils and Three TM2 Coils into their Frames



SoLID efforts since last meeting

- JLab has continued to put Capital into Generic DAQ that can be used for SoLID
- No LMBB meeting was held this spring so did not present cost sharing plan
- Instead developed with SoLID collaboration a staged approach
 - JLab would fund through Capital and OPS the Large Angle portion of SoLID
 - David and Thia presented this idea to Paul Mantica and others at DOE.
 - Main response was that SoLID needs CD0 to move forward.
 - Discuss more at this meeting with Thia
- Set up a meeting with SoLID leadership and New Jlab Director Jens Dilling