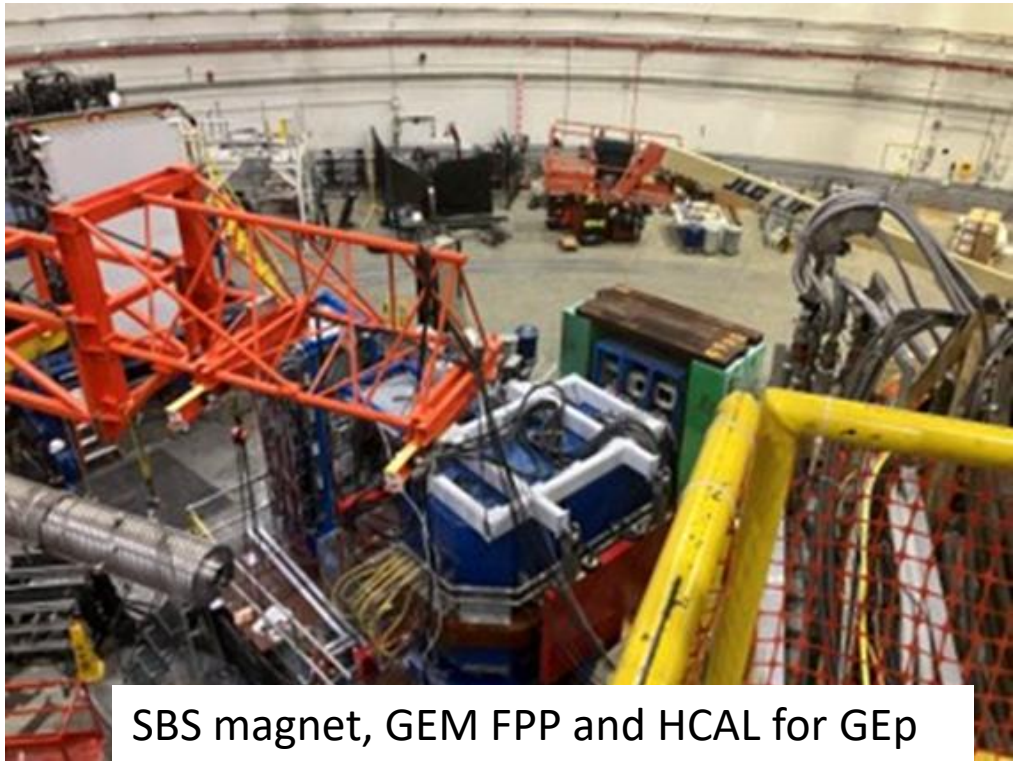
Hall A Status

February 2026 SoLID Collaboration Meeting

ECal and CDET for GEp



SBS magnet, GEM FPP and HCAL for GEp

Mark Jones
Hall A/C Group Leader

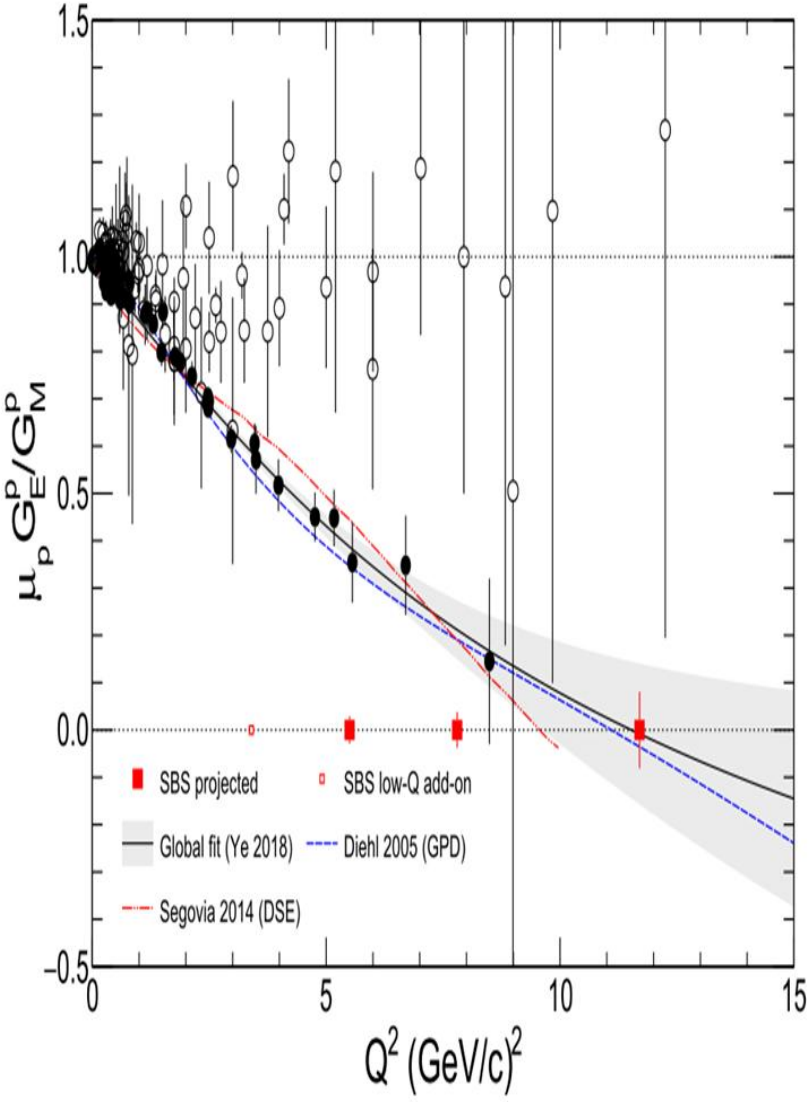
Dave Gaskell
Hall A/C Deputy Group Leader

GEp Experiment: Final SBS Form Factor experiment

GEp experiment run

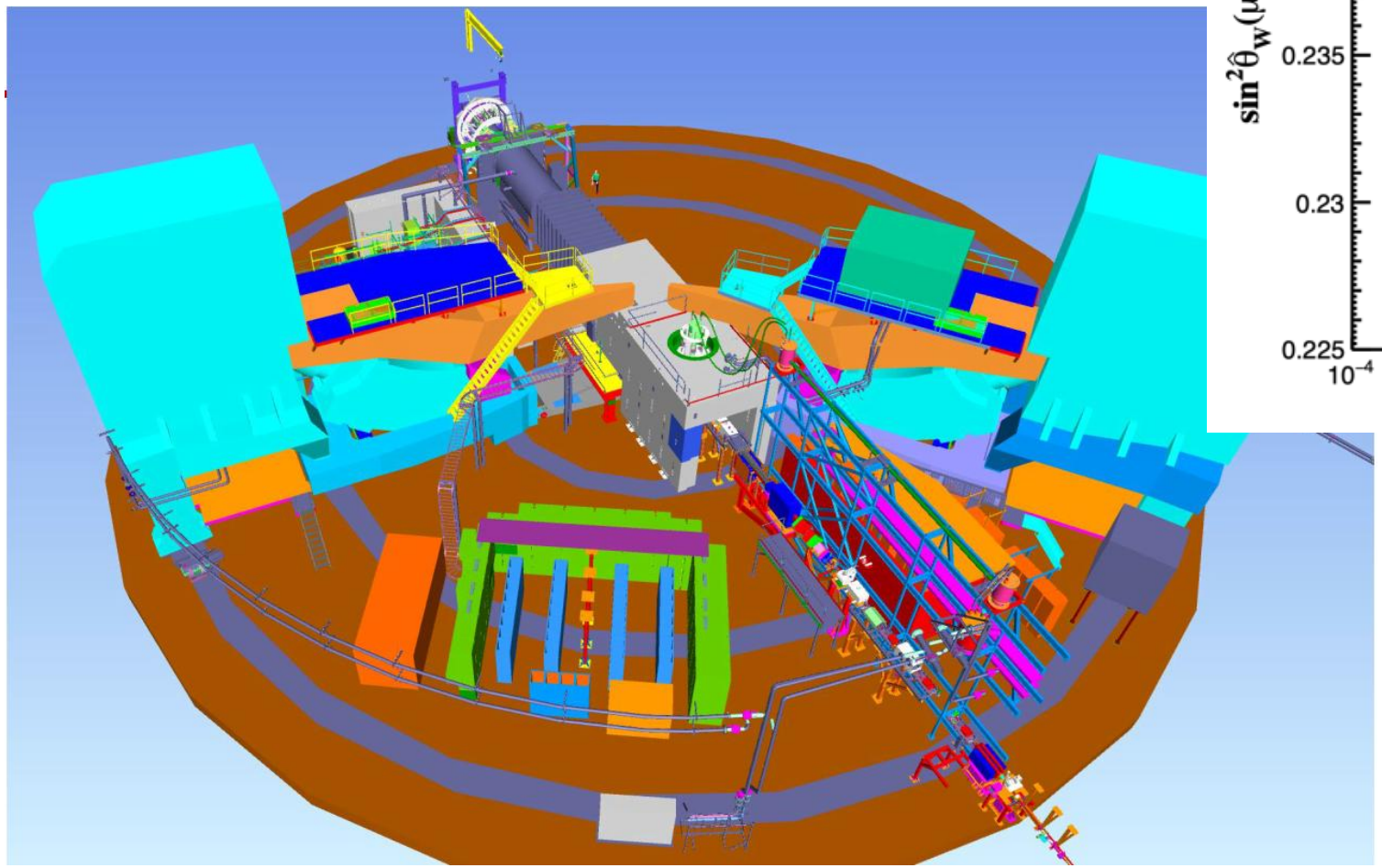
- Commissioning with 3 pass from April 11-17.
- Production with 3 pass from April 17-28.
  - Q^2= 5.6 GeV^2 obtained 3.7 C
- Changeover to 5 pass configuration from April 28 – May 5th
- Production at 5 pass started May 5th , Ran though Aug 26th.
  - Decided to run at lower Q^2 of 11.1 GeV^2
    - This increased rate by factor of 4.
    - Obtained 94.2 C
  - Not able to run the Q^2 = 8 GeV^2 setting and E12-24-010 which was high precision G_E/G_M to complement future positron data.
  - Three talks on Thursday to update status.

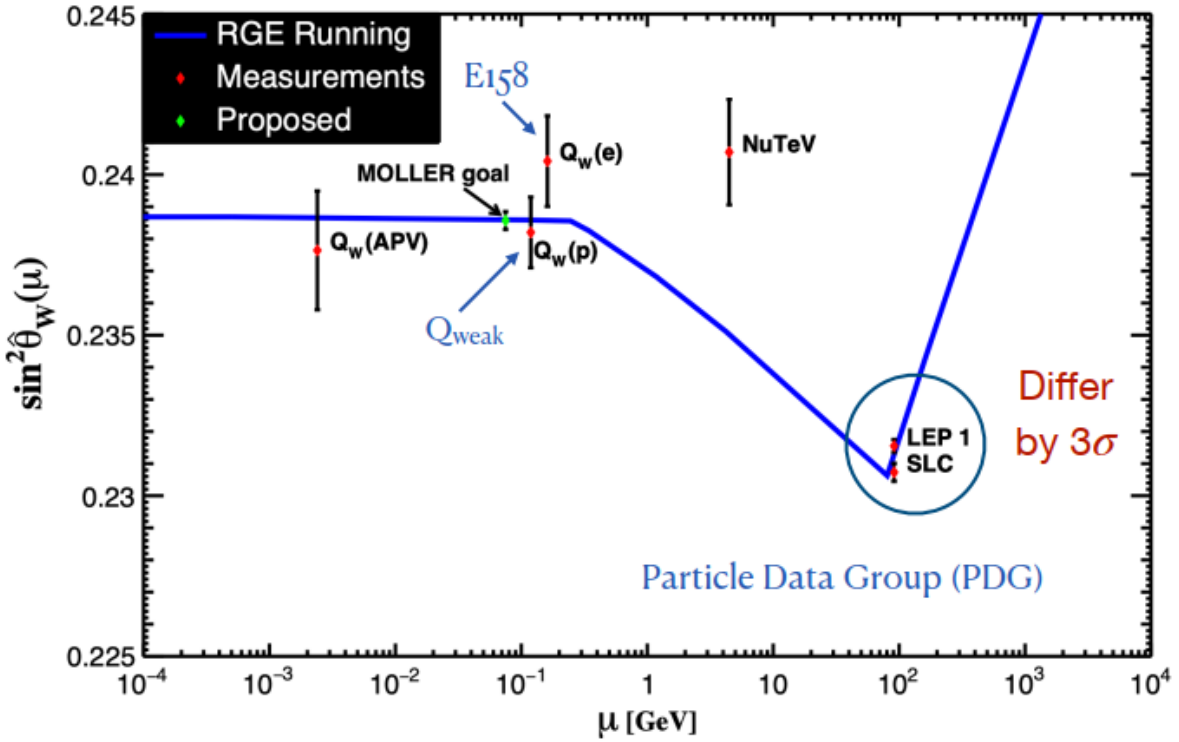
Projected error bars from proposal



MOLLER Experiment

- SBS Deinstallation completed. Installation has started.
- Spectrometer work in TestLab.
- Detectors arriving at JLab and W&M.
- Start running the experiment in 2027





Jefferson Lab

MOLLER Completed Tasks

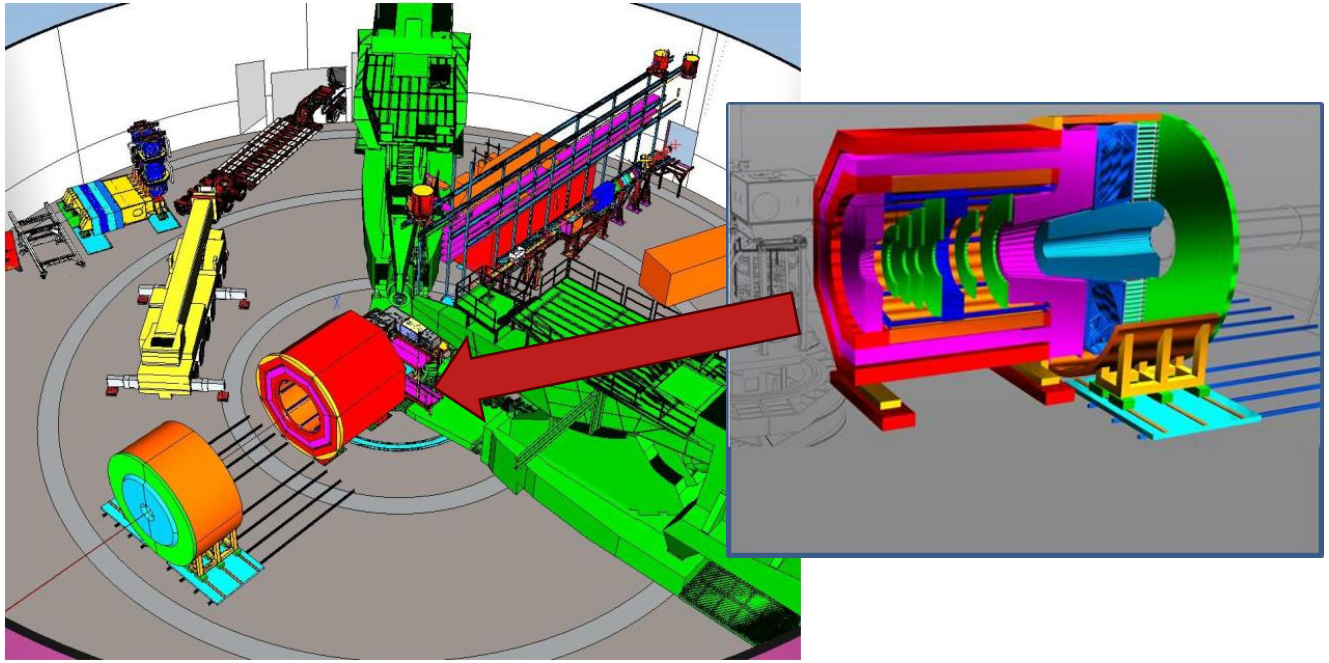
- Heidi Fansler and techs have prepared the cryo and removed U-tubes from entrance distribution can.
- Vacuum, I&C and DC power groups have prepared the upstream beamline.
- Engineering Mechanical group removed upstream beamline regions.
- HRS quads and link removed

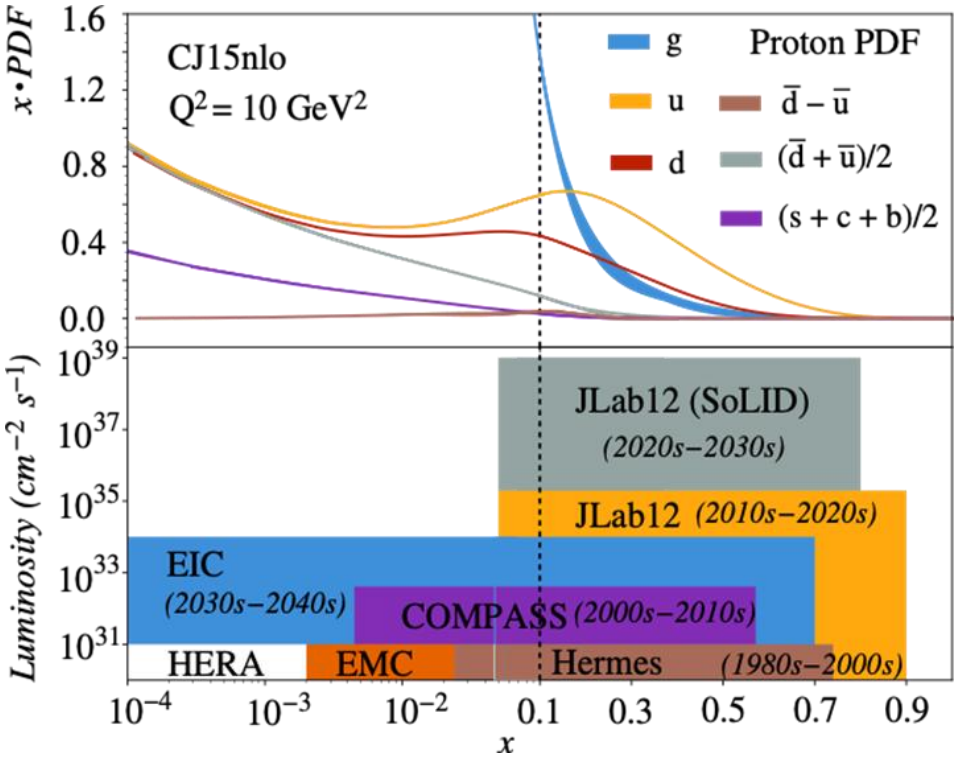
MOLLER Installation Completed and Ongoing Tasks

- Transported pion donut frame to hall
- MOLLER LCW installation hard piping completed
- Detector pipe and pion donut transported to hall
- The pion donut is being assembled.
- SAM pipe installed.

SoLID： Solenoidal Large Intensity Device

- A series of SIDIS experiments will probe the confined motions (3-D imaging) of partons inside protons and neutrons including orbital motion, and uncover the rich QCD dynamics such as spin-orbital correlations.
- Parity Violating Deep Inelastic Scattering (PVDIS) to search for new interactions beyond the Standard Model.
- J/Ψ production near threshold will provide information on the pure gluonic component of QCD





- SoLID in recommendation #4 of the NSAC Long Range Plan

  "We recommend capitalizing on the unique ways in which nuclear physics can advance discovery science and applications for society by investing in additional projects and new strategic opportunities"… which include "the Solenoidal Large Intensity Device (SoLID) at Jefferson Lab".

Jefferson Lab

Hall C Running in 2026

- Preparing for lab furlough with government shutdown in Oct/Nov
  - 3 week delay which shifted the beam start on March 14,2026.
- Machine has completed the 2K cool down in January 2026
- Accelerator on tight schedule to meet Physics beam start date (delayed 2 additional weeks)
- Physics beam with staggered start:
  - Fri March 27th Hall B, Mon March 30th Hall D and Wed April 1st Hall C
- Accelerator will start at low pass energy of 345 per linac for compatibility w/PRAD
  - E12-22-001: N-Δ at low Q^2
  - E12-23-001: VCS at low Q^2, 15 of 61 PAC days
- Two weeks for accelerator changeover to standard beam energies
  - Switchover is May 25 to June 8. Install the SoLID detectors at large angle.
  - E12-06-104/E12-24-001: R-SIDIS (Part 2). Run June 8 to July 27th
  - E12-06-107: Color Transparency via exclusive pion electroproduction. Run July 27 to Aug 31st. Small angle SoLID detector test
- Testing of SoLID detectors will be done parasitically during the June 8 to Aug 31st run period

Conclusion

- SBS Form factor program has been completed.
- MOLLER installation is in progress. Will start running in 2027 for 3 years.
- SoLID
  - Need to obtain DOE CD0 .
    - Keep spreading the word about the SoLID will be the high luminosity and large solid angle apparatus to maximize the Jlab physics discovery potential.
  - Test of CLEO magnet was done. When MOLLER is out of Testlab, we should be able to investigate issues.
  - Completed large DAQ capitol investment that can support SoLID and other future experiments
  - Plan to do parasitic test of SoLID detectors in Hall C during the June 8 to Aug 31st run period.
  - Looking for pre R&D opportunities to get DOE research support
    - MPGD ASIC development white paper
    - AI/ML efforts
    - Alternative MPGD technology.