

Lab Status / AEM Meeting Notes
Monday October 30, 2017

<https://indico.fnal.gov/event/15623/>

Incidents:

- AD personnel hit head when standing up.

Accelerator Operations / Shutdown Report:

- BNB started Friday: 5E17 POT.
- Other parts of the accelerator complex are in various stages of being brought back into operation.
- PIP-II Injector Test: Beam tests in progress with full MEBT. Shutdown planned for Nov 13 for ~2 weeks.
- FAST: Commissioning the 300 MeV beamline.
- LCLSII Prototype Cryo Module testing progressing.
- Schedule: <http://www-ad.fnal.gov/ops/schedule.html>

MicroBooNE:

- Stable running since beam returned Friday evening.
- POT weighted uptime: 98.6%
- Standby router installed in case problems with router in LArTF (reported last week) recur.
- Data and MC processing for Neutrino 2018 begun.

MINERvA:

- DAQ running smoothly for last few days. Still trying to understand source of timing error reported last week.
- MINERvA-specific software installed on spare DAQ computer.
- Main shift computer kernel crashed. Back to normal.
- Bad MINOS channel report script fixed ... now working.
- Ready for beam.

NOvA:

- Uptimes: ND/FD = 97.0% / 88.8%
- Most shutdown jobs successfully completed.
- NC disappearance result published today in PRD.

Muon g-2:

- Last week installed fiber Harp. Good vacuum, returning to pre-fiber-harp levels over weekend.
- Tuning & testing magnetometer ... goal is to understand kicker pulse.

PPD:

- DES reported on 50 supernovas confirmed by follow-up observations by 4m AAT telescope in Australia.
- Lauren Hsu & Dan Bauer doing Facebook Live stream about SuperCDMS from Lab G for dark matter day Tuesday.
- Mu2e
 - o GA finished winding of PS/DS model coil. This week they are commissioning Vacuum Pressure Impregnation equipment in Tupelo & preparing model coil for VPI next week.
 - o ASG continuing to perform measurements of Transport Solenoid coils prior to insertion into shell.
 - o AC Dipole moved from IB2 to x-gallery. Plan to retest at 5 MHz to see whether problems seen at IB2 persist prior to doing test at 300 kHz.
 - o Continuing to study alternate installation sequence options in response to Production Solenoid arriving after Detector Solenoid & Transport Solenoid.

ND:

- SBN-FD: Repairing the gas leak and the card reader on the interior stair.
- DUNE & LBNF management, met with representatives from SDSMT and Rapid City, SD, regarding warehousing space and a potential integration facility for DUNE.
- DUNE: This was the last week of the second ProtoDUNE-SP HV run in the 35T. The new high voltage feedthrough at the PAB held voltage to the maximum of the -150 kV supply.
- Near-infrared test in LAr: Working on characterization of the red sensitive SensL SiPMs before closing the NIR cryostat.

LBNF:

- No report.

TD:

- SRF Sector:
 - * R&D: (i) 2.6 GHz doping started after high gradient run. (ii) 1.3 GHz N-infusion & doping studies continued. (iii) 650 MHz troubleshooting furnace contaminations. (iv) Nb3Sn coating re-started after new Sn-heater fabricated. (v) Plasma processing continued studies on mode excitations. (vi) Nb/Cu equipment relocated to new location, installation begins.
 - * LCLS-II: (i) 3.9 9-cell dressed cavity 3HRI03 horizontal test waiting for engineering approval to cool down. Coupler warm conditioning in progress. 3.9 9-cell cavity 3HRI02 dressed, pending pressure test. (ii) CM03 leak check found BPM feethroughs leaked. New torque spec increased from 12 to 16 N.m Leak was too big. Cryomodule will be completely disassembled & rebuilt. (iii) CM01, CM02, CM04 pending retrofit work related to microphonics mitigation. (iv) CM06 ready to transport to CMTF test cave. CM05 finishing final welds & pressure test. (v) CM07 experienced upper cold mass alignment

issue due to vendor related non-conformance parts, retrofit in progress at WS3. CM08 in WS2 to complete. CM08 in WS2, complete. (vi) CM09 completed WS0 & waiting for tooling freed from CM08. (vii) Jlab pCM test concluded. Gradient & field emission consistent from JLAB results. However, Q0 result much higher than JLAB results. 2.07 K test appears reasonable cryomodule acceptance test.

* PIP-II: (i) Another 650 MHz 5-cell cavity qualified (B9A-AES-007). (ii) STC test of integrated spoke cavity (S112) had strong Field Emission & needs re-HPR & re-test. (iii) STC test of spoke cavity (S113) had multipacting & field emission, needs re-HPR and re-test.

* LARP Deflecting Cavity: First vertical test of first deflecting cavity completed. Measurement successful. Cavity qualified.

- Magnet Sector:

* LARP/HL- LHC, AUP – Investigation of issues with Selva winding machine continues, Rotating table for manual winding in IB3A will be used. MQXFS1d ready for welding SS shell in IB3. Cold test expected in December.

* LCLS II – test & qualification of quadrupoles continues, SPQA116 cold test in progress, SPQA117-120 are in different stages.

* Mu2e – (i) TS test facility commissioning in HAB near completion. TS prototype cooled down & coil has been excited to 300 amp. Waiting for permission to go to full current of ~2kA. (ii) Final machining of shell for first TS production unit completed. Magnet is expected in Nov. (iii) Winding of model PS/DS coil completed. Vacuum impregnation equipment was commissioned at GA San Diego & shipped to Tupelo. (iv) 6 units lengths of PS conductor received from Furukawa. We now have in house enough conductor to built PS, with no spares. We are discussing with GA when to ship conductor to them. All DS conductor shipped to GA already.

* Muon G-2 – g-2 Inflector modifications in progress, preparation in progress for inner layer winding.

* AS – 3 of 5 water leaks found in the tunnel have been fixed by accelerator support technicians during shutdown.

* MDP 15-17 T dipole R&D – Fabrication of 15 T dipole coils is progressing; winding of inner coil layers 1 and 2 in progress.

* Infrastructure (IB1) – Removed Tev test stand power system switchyard & buswork. VTS3 floor trench installed by contractors.

Computing Operations:

- CCD. (i) Last week: Workday/FermiWorks slow. Issue finally resolved by vendor. (ii) PeopleSoft/Payroll upgraded over weekend. If you have problem logging into payroll self-service, reset your password.
- SCD: Good week.

Office of Communication:

- Oct 31 is Dark Matter Day. Take a look at <https://www.darkmatterday.com/>
- Oct 31: half-day symposium at UC to celebrate Fermilab 50th anniversary.

- Oct 31: Panel discussion with former Prime Minister of Italy at 10:10am in Ramsey Auditorium.

Directorate:

- No report.

AOB:

- None