Weekly Report for 10/14/2013

APS Renewal and Upgrade

• Discussed the MBA vs present lattice with T. Graber, and explained how the source size is determined. (Kathy Harkay)

MCR Operations

Storage Ring Operations

• Investigated S19B:V2 correct range error alarm. The corrector setpoints seem to be drifting, but maintaining the orbit and was drifting back to the values before the last beam loss. Do not see anything obvious with bpms, but there are three correctors in orbit control for that sector instead of the usual two. Passed the information on to Sajaev. (Karen Schroeder)

• Investigated beam loss where S39A:H3 p.s. went to -99A with a setpoint of 100A and DacAI of -100A with Emery and Lenkszus. A reboot of the IOC resolved the problem which re-occurred after beam was stored. Initial attempts to store beam had 2% injection efficiency. Emery was able to give us a file with gaps open that allowed us to fill the ring. After further investigation, I found that the BTS horizontal correctors were very different than before studies. Once these were restored, top-up injection efficiency increased by 10% and there was no problem during injection after the next beam loss. It was found that the an injection optimization script had failed during a study the previous evening but the differences weren't found since injection efficiency with gaps open was still very good. (Karen Schroeder)

• Observed slightly elevated LHe tank pressure (780 Torr vs expected 760 Torr) observed during 24-bunch ops, which I discussed with the SCU0 Technical Team. It appears that the slight changes (including Temp4 central chamber temperature) can be correlated with very small vertical beam steering changes. The question remains why do we notice these changes now, when presumably they existed in prior runs as well? The answer might be we're closer to the threshold now in 24-bunch mode, where the LHe tank pressure is affected at the nominal orbit (the cryocoooler limit of keeping the temps constant, or there's a heat leak). (Kathy Harkay)

MCR Operations administrative/misc.

• Generated the downtime report for presentation by Flood to OPS Directorate (Karen Schroeder)

• Reviewed updated procedures (Karen Schroeder)

APS Machine Studies

Storage Ring Studies

• Performed gap scans to update Gap Feedfoward Tables and returned the X-ray BPMs back to orbit control if they were removed because the beamline requested steering (Karen Schroeder)

• Updated the machine studies schedule with last minute additional studies. (Karen Schroeder)

• Carried out SCU0 chamber BBA measurements, for the first time as a function of LHe tank pressure. Assisted by C. Doose, M. Smith, and J. Kaluzny. BBA will be repeated under more stable LHe pressure conditions. Discussed results at weekly TOM meeting. The chamber alignment has remained very stable over 10 mos of operation (within 50 um). (Kathy Harkay)

APS Machine Research and Development

Storage Ring Research and Development

• Obtained SCU0 quench data from C. Doose acquired by the Labview system, recorded over short time scales. My plan is to data-mine for evidence of why beam dumps induce a voltage on the coils by correlating the SCU0 data with machine data. (Kathy Harkay)

APS Machine Software

Injectors

• added kicker rate parameter to RF gun kicker waveform collection and kicker rate display in kicker waveform plots to AcquireLinacWaveforms. (Hairong Shang)

• debugged booster ramp correction problem due to nonexistence of the ramp file that is frequently overwritten. Added waiting for 10 seconds for checking the existence of ${magnet}Vref.afg100 file for slow network response sometimes to booster ramp correction, tested and install boosterRamp.tcl (Hairong Shang)

• added ITS to emttiance measurement. (Hairong Shang)

• added PCGUN_FL2 and PCGUN_SLFC to ITSLatticeSetup, and created the related configuration files. (Hairong Shang)

General

• made the measurement and variables list box stretchable in quickExperiment. (Hairong Shang)

Meetings, workshops, conferences, committees, LMS related, and reviews

• Presented J. Galambos' paper on the SNS status for the NA-PAC report to the AOP group. Also showed a You-tube video I found that shows a video image scan of the damage inside the SNS target vessel. (Kathy Harkay)

Education, Mentoring and outreach

• Held weekly meetings with L. Boon to discuss her progress. (Kathy Harkay)

Safety and Required Training

• Completed ASD102, ASD115, ASD125, and SCD100 (Kathy Harkay)

Miscellaneous

• Completed statement of accomplishments for performance appraisals. (Karen Schroeder)

• writing performance appraisal. (Hairong Shang)

• prepare talk for group meeting after attending ICALEPCS conference. Studied WebOPI and WedPDA for the talk. (Hairong Shang)

• attended feedback upgrade hardward meeting. (Hairong Shang)

• Started to review NSF CAREER proposal. (Kathy Harkay)

• Started to review a PRL paper. (Kathy Harkay)

No Report Submitted

• Michael Borland

• Yong Chul Chae

• Jeff Dooling

• Louis Emery

- Randy Flood
- Stan Pasky
- Vadim Sajaev
- Nick Sereno
- Robert Soliday
- Chun-xi Wang
- Marion White
- Aimin Xiao
- Chih-Yuan Yao
- Yusong Wang
- Ryan Lindberg
- Yin-e Sun