

Weekly Report for 07/20/2015

Highlights

- This is a one-week report (7/6 report covered three weeks). (Kathy Harkay)
- Carried out 48-bunch studies at 102 mA and compared HOM power with 24 bunches. (Kathy Harkay)

APS Renewal and Upgrade

- Attended MBA Radiation Physics meeting and discussed about kicker radiation measurements. (Jeff Dooling)
- Asked J. Calvey and R. Lindberg to simulate high-charge beam stability in the PAR and booster, respectively, with higher injection energy, such as 600 MeV. (Kathy Harkay)
- Attended APS-U Physics meeting. (Kathy Harkay)
- Computed rf requirements for a hypothetical 20-mA 6-GeV accumulator ring, including beam loading (using TAPAs app). (Kathy Harkay)
- Organized an Injector WG meeting. (Kathy Harkay)

MCR Operations

Linac Operations

- Monday, working with A. DiChiara (XSD-TRR) returned all switching optics back to the regen cavity and obtained a lasing threshold near 74 A. Observed 1.5 mJ/pulse at 130 A. (Jeff Dooling)
- Tuesday was able to properly seed the cavity setting timing and voltage on the two Pockels Cells. (Jeff Dooling)
- Seeing a continual rise in turbidity in laser coolant. (Jeff Dooling)
- Met with G. Swetin to discuss water issues on the pc gun drive laser chiller. He recommended going to an all stainless steel system. Requested a quote from PolyScience for a new chiller unit. (Jeff Dooling)
- Tried bringing IR output energy to 4-5 mJ/pulse but could only reach 3.75 mJ/pulse. eDrive current limited to 190 A (Isense). (Jeff Dooling)
- Staying at 3 mJ/pulse (178 A), aligned beam through the compressor. (Jeff Dooling)
- Began optimizing second harmonic generation. Set up beam purity monitor. Verified operation of newly acquired J8LP energy monitor. (Jeff Dooling)
- Measured diode pump current. Sent data on eDrive to manufacturer Northrup/Grumman Cutting Edge Optronics (NG CEO) to troubleshoot driver. Received quote for new eDrive unit. (Jeff Dooling)

Procedures

- Emergency Shut-Down for the LEUTL Water System (APS_1193016) (Randy Flood)
- Rewrote section 3.5 Main Control Room (MCR) Emergency Action (APS_1260018) (Randy Flood)

Training

- Attended Move to Lose training by HEW (Randy Flood)

MCR Operations administrative/misc.

- Approved operators' time cards (Randy Flood)
- Approved vacation requests, set up coverage and updated the online schedule (Randy Flood)
- Approve CTLs, IT and Other work requests (Randy Flood)

APS Machine Studies

Storage Ring Studies

- Discussed 48-bunch studies with RF group (D. Horan and A. Nassiri), and forwarded results from the last study on 5/29/2006. (Kathy Harkay)
- Requested an orbit control law BPM configuration for 48 bunches, implemented by H. Shang and L. Emery. (Kathy Harkay)
- Carried out 48-bunch studies and filled 102 mA without any vacuum or coupler heating issues. Ran topup for one hour. Lifetime was long, about 30 h. HOM power was lower than with 24 bunches. Reported results at weekly studies meeting. (Kathy Harkay)

APS Machine Research and Development

Storage Ring Research and Development

- Briefly discussed abort kicker radiation survey status with V. Sajaev. Raised the question at M. Borland's bi-weekly radiation shielding meeting, on how we should proceed. Asked Brad Micklich for radiation calculation support. Followed up with J. Lang, to explain the current status. (Kathy Harkay)
- Investigated past lower-energy studies in APS. Forwarded the summary of 6-GeV studies on 1/25/2006 to L. Emery and G. Waldschmidt. The instability threshold was 65-70 mA in both 24 and 324 bunches, and we discovered that the beam was driving the 1.2 GHz mode in one of the cavities. Detuning the cavity was not entirely successful. Also forwarded L. Emery my TN on zero-chromaticity studies. (Kathy Harkay)

ITS Research and Development

- Attended meeting to discuss THz generation experiment in the ITS. (Jeff Dooling)

APS Machine Software

IOC/EPICS/Controls/Linux/Solaris/Linux Clusters/Data Loggers/Simulation software

- Administer the EPICS CVS repository to ensure current versions are installed and conflicts are tracked down and eliminated. (Randy Flood)

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

- Participated in a meeting about waterproofing the Booster tunnel (Randy Flood)
- Prepared for and participated in ACIS review dry run (Randy Flood)
- Attend shutdown planning meetings (Randy Flood)
- Presented stats and operational issues to Ops Directorate meeting (Randy Flood)

Miscellaneous

- Administer multiple mailing lists and the elegant forum (Randy Flood)