

Weekly Report for 06/23/2014

MCR Operations

Storage Ring Operations

- Assisted MCR with recovery from beam losses. (Karen Schroeder)
- Investigated beam loss with no MPS first fault indication. Had same signature as the previous one which we had suspected to be S31A:P1 bpld and also had the S31:MPS module instigate the beam loss. Passed on the information to Erwin, Bui and Sereno. They will investigate and repair during the next machine studies. (Karen Schroeder)
- Assisted MCR with orbit correction issues -- removing BPM, identifying the problem was UBOP was not installed after beam loss and before a steering was completed when orbit control was started, assisted MCR with getting orbit correction restarted after a corrector tripped off, etc. (Karen Schroeder)

Linac Operations

- Preparing medm screens for the new PCGun (Stan Pasky)
- Vacuum (Stan Pasky)
- Water (Stan Pasky)
- Machine Protection Interlocks (Stan Pasky)

Procedures

- Updated - Photo Injector Drive Laser Room (A103A), Injector Test Stand (A103B), Access Requirements (APS_1442159) (Stan Pasky)

Training

- Instructed and guided new trainee operator on the linac injector. (Stan Pasky)
- Completed APS137 13-JUL-2014 Tunnel Access Survey Meter Training on 7/02/2014 (Stan Pasky)

MCR Operations administrative/misc.

- Discussed downtimes with several people so that the downtime reports for OPS Directorate could be produced. Either gave to Flood for presentation to OPS Directorate or attended OPS Directorate and presented it myself. Updated the Fill History tool with appropriate information. (Karen Schroeder)
- Provided information regarding the proposed 2015-1 Run schedule and added it to the published FY 2015 long range schedule. Modified the excel and html files to show 2015 holidays. Generated a pdf file and sent on the webmaster for posting on the web. Notified Beno that the schedule had been published. (Karen Schroeder)
- Reviewed and approved non-RSS SR work requests. Reviewed and approved RSS work requests when CCSM not available. (Karen Schroeder)

APS Machine Studies

Storage Ring Studies

- (June 16-20) Participated with K. Harkay in beam loss study in ID6. Acquired beam loss signals from both MPS and IK5 (vertical pinger) events. (Jeff Dooling)

- (June 16-20) Found the MPS would not trigger the IK5 within the spiral time duration between MPS firing and observable beam loss in ID6. (Jeff Dooling)
- (June 16-20) J. Wang has increased the IK5 capacitance and we did observe that period of loss was extended with the pinger-only events as would be expected with a longer pulse. (Jeff Dooling)
- Updated the machine studies schedule with late requests. (Karen Schroeder)
- Generated the non-beam portion of the machine studies schedule one week when usual schedule was on vacation. (Karen Schroeder)
- Performed gaps scans to generate new Gap Feedforward tables and added back x-ray bpms which had been removed due to steering. (Karen Schroeder)
- Performed orbit response measurements. (Karen Schroeder)
- Assisted MCR with preparations and recovery from non-beam studies (Karen Schroeder)

ITS Studies

- Collected data for the PC gun emittance and the dispersion of the bending magnet. (Ryan Lindberg)
- (June 16-20) Continued with PC Gun commissioning. With assistance from R. Soliday and H. Shang, wrote script to analyze quantum efficiency map data acquired June 10th. (Jeff Dooling)
- (June 16-20) With Y. Sun, rebuilt the camera and illumination on the YAG1 screen in the ITS to improve resolution. (Jeff Dooling)
- (June 16-20) Found difficulty in recording images on the VC camera using the LFG1 frame grabber. Many times the image recorded is blank; will discuss with S. Shoaf (AES-CTL). (Jeff Dooling)
- (June 16-20) Attended PC Gun meeting. (Jeff Dooling)
- Remotely recorded PC Gun VC images. (Jeff Dooling)

APS Machine Research and Development

Storage Ring Research and Development

- Continued my attempts to reproduce Y.-C. Chae's accumulation limit studies. Found possible discrepancy with the resistive wall impedance. Also, I renewed the license for GdfidL. (Ryan Lindberg)

Linac Research and Development

- Coordinating work in the klystron gallery for PCGun installation (Stan Pasky)
- riggers (Stan Pasky)
- electricians - ac power to cabinets (Stan Pasky)
- ASD power supply group (Stan Pasky)
- Assisted and validated the linac L6 machine protection interlocks. This intervention was to insure that the Nokomis test system would be protected from any unnecessary events. (Attended short meeting on this subject on July 2nd) (Stan Pasky)

Other Research and Development

- Ran more detailed simulations of the possible performance of a laser wiggler-based FEL with our PC gun. Came to some discouraging conclusions regarding the energy required (>10 J), and reported them to our Wisconsin colleagues. (Ryan Lindberg)

APS Machine Software

Storage Ring

- continue improving tune measurement with MXA: 1) added range argument to be able to change MXA range level, and added it to getxytunes and SRDispChromMeas 2) commented out setup for EXG because it has been taken, and put back the setup for VSA. The tune measurement goes back to MXA-VSA now. Tested getxytunes, it worked. (Hairong Shang)
- modified getxytunes and SRDispChromMeas to use hpSocketSend to turn off VSA source because APSWriteToTelnetStream does not work for command "OUTP OFF" somehow and caused the program hang. (Hairong Shang)
- tested Mobo gap scan for collecting xray bpm data with Mike Hahne in DIAG group: 1) commented out the bunch pattern checking because it is no longer needed. 2) except the bunch pattern checking, there is no problem with the script. However, 10.15, 21 downstream gaps and 16, 23 upstream gaps could not go to their minimum gap, found that their user device limit is equal or smaller than the actual device limit, so that it was prohibited to set the gap value to the user device limit (minimum gap), increased the user gap limit by 1 digit in the second decimal position and fixed the problem. 3) we found the feedback always set ID8 gain and offset to zero, which should not be. Debugged and found that the gap difference of ID9 ds and us is 0.5mm, which is bigger than the allowed difference 0.25 -- changed the tolerance in FF table and script to 0.5, and fixed the problem. (Hairong Shang)

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

- 2014-7-2 Tcavity/PC Gun meeting (Stan Pasky)
- Attended all-hands meeting. (Karen Schroeder)
- Attended the DOE meetings with staff (Karen Schroeder)

Education, Mentoring and outreach

- Met graduate student who might help with the impedance test stand measurements and simulations. (Ryan Lindberg)

Safety and Required Training

- (June 16-20) Completed ESH 120 laser training. (Jeff Dooling)
- Attended Tunnel Access Survey Meter Training (Karen Schroeder)

Miscellaneous

- (June 16-20) Received ANL medical exam (Jeff Dooling)
- Annual Leave June 23-27 (Jeff Dooling)