

Weekly Report for 06/09/2014

APS Renewal and Upgrade

- Reproduced a few of Y.-C. Chae's accumulation limit simulations for APSU. Began to more completely understand his methods to justify and/or improve upon them. (Ryan Lindberg)

MCR Operations

ITS Operations

- Continued efforts between operations and the PC Gun commissioning personnel. (Stan Pasky)

Training

- Provided new operator training (Linac) (Stan Pasky)

APS Machine Studies

ITS Studies

- Continued with PC Gun commissioning, recording a quantum efficiency map of the cathode with R. Lindberg. (Jeff Dooling)
- Found we needed to reduced the threshold voltage on the ICT to zero to obtain a more accurate phase scan waveform. (Jeff Dooling)
- Low charge is cut off creating an artificially narrow pulse (charge vs phase); this leads to setting the phase at the wrong value for good emittance measurements. (Jeff Dooling)
- With assistance from R. Keane (ASD-DIA) reduced V_{min} from 15 mV to 0 mV. (Jeff Dooling)
- Met with Y.-E. Sun and R. Lindberg to discuss plans for the remainder of the PC Gun commissioning period. Period nominally ends July 25. (Jeff Dooling)

APS Machine Research and Development

Storage Ring Research and Development

- Tried (unsuccessfully) to reproduce Y.-C. Chae's accumulation limit simulations for the APS. I focused on his previous work designed to compare simulation with experiment, but cannot discover what is different. Will keep trying... (Ryan Lindberg)
- Spoke with N. Sereno about supporting FO BLM hardware in Diagnostics Group. (Jeff Dooling)

Linac Research and Development

- Continued efforts between operations and staff for installing the PC Gun and the beam line components in the linac tunnel. (Stan Pasky)
- Authorized Access was made for gun vibration measurements. (Stan Pasky)

ITS Research and Development

- Did two shifts characterizing the emittance on the PC gun. (Ryan Lindberg)
- Authorized Access was made for gun vibration measurements. (Stan Pasky)
- Met with representatives from RadiaBeam; gave tour of the ITS and attended physics discussion regarding their planned experiment for the ITS in the Fall. (Jeff Dooling)

APS Machine Software

Storage Ring

- debugged sddscontrollaw for DP offset transfer problem which complained that NaN found in waveform. Finally found out that one of the readback pvs gave NaN value (which were S10ID:P2 x/y setpointAO), added printing statement to sddscontrollaw to help use find out the bad pv names and able to fix the problem. The datapool offset transfer was able to run after the corresponding IOC was rebooted and the NaN issue was fixed. This bug fix is important for delivering user beam and providing normal operation. (Hairong Shang)
- manually removed noexistnet PVs (related S35ID:P2 blades) in SBPMs UBOP file. (Hairong Shang)
- removed ID 35 gap in makeIDSectorsFile because it is differnt from other gaps, some PVs for ID 35 do not exist. (Hairong Shang)
- changed the GUI of SRFitGapScan to look better after ID35ds was removed. (Hairong Shang)

Injectors

- tested and installed booster energy saver for IRamp correction. (Hairong Shang)
- added logging pvs as parameters for ITS per Yine's request, and changed to not change the viedo frame grabbder for ITS emittance measurement, tested and installed measureLinacEmittance. (Hairong Shang)
- added loading SD safety ramp when switching to VRamp because the ramp is much different from IRamp (IRamp has a bump, VaRamp is straight line). (Hairong Shang)
- added -IRamp argument to BRampAutoCorr for loading IRamp safety ramps, and added description of loading VRamp or IRamp in the logMessage when loading safety ramps to avoid confusion.. (Hairong Shang)
- updated switch to VRamp and IRamp pem to work with new soft ioc. (Hairong Shang)
- added IRamp log message in boosterRamps.tcl to distinguish from VRamp correction. (Hairong Shang)

General

- continue working with CY on MXA-EXG combination for tune measurement. help CY generating signal generator waveform. (Hairong Shang)
- added corrector weight to sddspseudoinverse. (Hairong Shang)

Publications, papers and report

- Submitted a technical note on the possibility of using the Podobedov/Stupakov point charge reconstruction algorithm for wakefield calculations at the APS. (Ryan Lindberg)

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

- Presented talk at the AOP meeting on the PC Gun Laser. (Jeff Dooling)