Weekly Report for 11/03/2014

APS Renewal and Upgrade

• Presented an updated injectorHighChargeUpgradePlan at MBA physics meeting. Specifically called for 1Hz timing, booster sextupole supply and corrector ramp control upgrade. (Chih-Yuan Yao)

• Sent result of feedthrough parameter simulation for fast kicker to COSMETEC for review. (Chih-Yuan Yao)

• Worked on lossfactor and heat simuation of stripline type devices with CST studio. (Chih-Yuan Yao)

MCR Operations

Storage Ring Operations

• Looked at IEX steering creep over the last few weeks after a user request was made. (IEX isn't supposed to be steered away from the beam axis.) (Louis Emery)

• Wrote direction for Schroeder to follow when a user is complaining of beam motion or intensity variation. Discussed further what to do about ID13. (Louis Emery)

• Investigated P0 feedback related beam problem. In one case the sample time was shifted by 33 clocks and returned after a beam loss. In another the system appeared to load another unrelatied sample pattern for no reason. Added average waveform values PVs for monitoring. (Chih-Yuan Yao)

PAR Operations

• Updated test files for PTB x and y controllaw processes that was suggested by Greg Fystro. (Chih-Yuan Yao)

Linac Operations

• Working with Yine Sun, aligned first the green alignment laser, then the pcgun laser into the linac tunnel. Used injection studies time Wednesday, Thursday, Saturday, and Sunday. (Jeff Dooling)

• Completed Quarterly LACIS validation with M. Henry. (Jeff Dooling)

• Due to failure of the amplifier shutter and shutter driver, have moved the Test (ITS) shutter driver into the amplifier position. Using a spare 50-mm shutter in the amplifier position. (Jeff Dooling)

• Collected low-level rf data on rf thermionic gun 3G3 set up in the Vacuum Lab. (Jeff Dooling)

APS Machine Studies

Storage Ring Studies

• Helped Sereno and B. Yang on finding an error in square matrix for ID27 experiment. (Louis Emery)

• Capture the SCU0 quench orbit effect using Dsp Scope. We took data of the SCU0 quench with full orbit feedback and with no orbit feedback. The orbit was of the order 10 um with feedback running. (Louis Emery)

• Measure local impedance in sector 30 straight section after the -0.4 mm VC alignment during the shut-down. Measure also with +0.4 mm bump. (Louis Emery)

• Using calibration data, recorded and calculated injection losses with the ID1 BLM at the upstream location. (Jeff Dooling)

• Tried to compare losses from October 3 and 10, but found the data from the 10th was recorded at higher sensitivity and thus off scale. (Jeff Dooling)

PAR Studies

• Performed radiation survey with John Vacca. There are some inconsistencies and we will do another survey in Dec. (Chih-Yuan Yao)

APS Machine Research and Development

Storage Ring Research and Development

• Writing MPS text for SCU1 physics review. (Louis Emery)

• Entered some comments on the close-out report of the skew quadrupole conversion. (Louis Emery)

• Visited 314 with K. Harkay and reviewed placement of the FO BLMs in the SCU1 cryostat. BLMs have been installed. (Jeff Dooling)

• Cross-checked simulation data with Xiang for S31 new stripline design. (Chih-Yuan Yao)

• Worked with NIck and SLS for a new ADC/DAC board for 352MSPS sample rate. (Chih-Yuan Yao)

Booster Research and Development

• Communicated booster BPM BSP-100 upgrade specification with Tony Pietryla and Hanh Bui. (Chih-Yuan Yao)

• Added a number2Ave feature to the booster autoRampCorrection. The purpose is to achieve better correction for the BM. However test result show no worse performance. (Chih-Yuan Yao)

ITS Research and Development

• Updated schedule for PC Gun commissioning and ITS/RadiaBeam work. (Jeff Dooling)

APS Machine Software

Storage Ring

• continue improving and testing SRGridXBPMCalibration testing, collected both vertical and horizontal beam scan data for post-processing. (Hairong Shang)

• tested and fixed "Apply" Setpoint button for SRIDUnifiedSteering, it works properly now. And added "UpdateFFAdjust" button to update the feedforward adjust waveforms from current bpm offset and setpoint readings. (Hairong Shang)

• checked P0FeedbackControl and tried to find out how the wrong pattern was loaded -- did not find the problem. Suggest creating a log pv to log the installed pattern. (Hairong Shang)

General

• attended EPICS traning course and studing python. (Hairong Shang)

Miscellaneous

• Gave some latex help on SCU paper of Yury's. (Louis Emery)

• Discussed public key logging with IT group. They want to restrict this type of logging in to one exposed computer. (Louis Emery)

• Travelled to BNL for commissioning of NSLS-II for 4 days; met with several staff members; resolved orbit reproducibility problem using SDDS EPICS tools. (Louis Emery)

• Have a trip to NSlS-II on visiting/discussion their storage ring commissioning. Discussed with many people over there on various issues, such like: IVU aperture scan; Optics measurement using TBT data; Tcl/Tk application; Feed-forward applications to PS; Python applications; Magnet standardization procedures, etc. Found out an issue in dipole condition procedure which resulting non-reproducible orbit errors. (Aimin Xiao)