Weekly Report for 02/16/2015

APS Renewal and Upgrade

• Continue on Touschek scattering simulation. Study particle loss vs energy error and tracking turns. (Aimin Xiao)

• Start round beam operation simulation using calibrated APS model. Setup tune and coupling variation knob. Discussed several simulation issues with Michael and Vadim. Will compare simulation result with experiment data. (Aimin Xiao)

MCR Operations

Linac Operations

• Made controlled access into linac tunnel to work on final alignment of green laser beam on to the photocathode. Worked with M. Hahne and W. Berg. (Jeff Dooling)

• Will continue alignment work during next permitted access. (Jeff Dooling)

APS Machine Studies

Storage Ring Studies

• Prepare machine study schedule for next week. (Aimin Xiao)

• Generated new IEX correction table (C mode coupling+orbit). (Aimin Xiao)

• Presented summary of January 29 ID1 BLM study at the Studies meeting. Calibration of BLMs proved more difficult due to ambiguity in peak loss. (Jeff Dooling)

• Will attempt to repeat study using a bump in ID1. (Jeff Dooling)

Linac Studies

• Participated in RG2 tune-up study with Yine Sun. Collected L2:P1 waveform data in the linac gallery and saw evidence of misalignment of beam through the RG2 kicker. (Jeff Dooling)

• Increased RG2 current output after lowering the gun kicker (chopper) thyratron reservoir voltage and raising kicker voltage; however, the optimization also changed L2 quads away from their reference values. (Jeff Dooling)

• Will request new study to restore the L2 quad settings. (Jeff Dooling)

APS Machine Software

Storage Ring

• installed holdVCPosition software for controlling the temperature of the mechanical support in S27 through monitoring MMS after fully tests, had it being installed on the MMS medm screen. It is able to hold the S27 bpms' position successfully within 1 micron, other bpms (for example S28) position varies between 7-10 micron. (Hairong Shang)

• tested 4X4 S27/S28 feedback orbit correction with Shifu, it seemed that it had correction on S27/28 orbit, compared with other places; but showed big spikes comparing to previous RTFB open loop. Due to the condition changes (the SR current changed to 50mA from 100mA), it is hard to say if there is correction or not.\ (Hairong Shang)

• wrote measureLifeTime script for Yipeng to compute the lifetime from measured SR current through linear fitting. (Hairong Shang)

Injectors

• corrected the time computation of BIRampWaveformMon, now it included the timeshift for each magnet and is consistent with fixramp correction. (Hairong Shang)

• added injection time computation to GetBooRampCurrWF nd writes it to the output file parameter. (Hairong Shang)

• corrected the default achive data directory in BRampControl, which should be IRamp achive since the default is choosen as IRamp (Hairong Shang)

• tested the attenuator scan of P0FBScan with CY, collected data and added post-processing. (Hairong Shang)

• debugged and checked booster injection time computation, it seems that IRamp and VRamp has 13 ms difference, it turned out that injection time did not change, but the time computation of IRamp waveform is not corrected, corrected the time computation in BRampWaveformMon. (Hairong Shang)

Miscellaneous

• Took 4 hours of Annual Leave on both Tuesday and Wednesday. (Jeff Dooling)