



Plan for ATF2 June Trip

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Friday, 3rd May 2019

Setup

- **To pack:** FONT5A board, amplifier for splitting fast clock
- **Friday 7th June:**
 - Arrive in JPN, collect badges, attend radiation training
- **Saturday/Sunday 8-9th June:** Setup
 - Split and amplify fast clock for upstream X board
 - Check attenuators/movers/FONT boards/serial servers are working
 - Re-install FONT laptop after hard drive replacement
 - Install X processors (processors without 6 dB modification)
 - Check power levels of LOs
 - Supply trigger and fast clock to X board
 - Connect X board to serial device server
 - Setup 1dB step variable attenuator driver on dipole signal?

Beam schedule

Wednesday 12th: Owl shift – *nominal optics*

- Interleaved feedback with MFB1FF and IPB/C as witnesses

Friday 14th: Owl & day shift – *ultra low β optics*

- Interleaved feedback with MFB1FF and IPB/C as witnesses
- Studies using the IP BSM while running upstream FB

	1:00 – 9:00	9:00 – 17:00	17:00 – 25:00
Mon June 10		Start	Start up / DR Tuning
Tue June 11	DFS/WFS Pierre	DFS/WFS Pierre	CBPM calibration Alex. Lyapin? Renjun?
Wed June 12	FONT	Ultra-low Optics matching Renjun	tuning Ultra-low tuning linear knobs Renjun
Thu June 13	Ultra-low tuning linear knobs Vera, Andrii	Ultra-low tuning knobs/30 deg Renjun	Ultra-low tuning knobs/30 deg Renjun
Fri June 14	FONT w/ ultra-low optics	FONT w/ ultra-low optics	

Shift plan

- **Wednesday 12th: Owl shift – nominal optics**

Interleaved feedback with MFB1FF and IPB/C witnesses

- Apply constant kick with upstream system to align bunch-1 and bunch-2
- Put beam waist between IPB and IPC
- Align beam in X at IP, repeat in Y.
- Upstream setup and calibration
- Calibrate MFB1FF using ZV1FF
- Calibrate IP (X and Y)
- Kicker scans and measure correlation
- Run dual loop FB then switch gains to zero one-by-one

- **Friday 14th: Owl & day shift – ultra low β optics**

Continue FB studies & perform studies with the IP BSM while running upstream FB

- *Repeat feedback study with $\pi/2$ phase advance between P2 and P3*
- Upstream jitter source scan – measure beam size with upstream FB
- Charge scan – measure beam size with upstream FB

Potential Issues

- Bunch spacing (required for MFB1FF) might be too short for ATF cavity BPMs.
- Poor correlation in two bunch mode – little ATF tuning for 2 bunch operation.
- Possibly unable to swap to $\pi/2$ phase advance between P2 and P3 with ultra-low beta optics (Doug emailed Okugi-san about this –awaiting reply)
- Might be unable to align IP BSM and IP BPMs – looks like ~200 um separation
- Nominal optics for first shift and ultra-low beta optics for double shift – not ideal for paper data to have such large change in angular jitter between data sets
- We only have two working phase shifters and we will struggle if one of these breaks
- Would need help or instruction to run IP BSM – most likely will be during Friday day shift
- Would require high charge for our studies for best performance