KURRI FFAG MEETING 29/8/2013

Attendees:

C. R. Prior
S. L. Sheehy
D. J. Kelliher
Y. Ishi
Y. Mori
J. B. Lagrange

Minutes

- Ishi-san reported on current beam studies to show us the diagnostics in the ADSR-FFAG Ring.
- S.L.S has also asked for a similar diagram and layout for the ERIT ring which Ishi-san says he has the information for.

*Overview of devices:*

- Radial probe ICF70 can be used for faraday cup or obstacle-like intercepting device and measure beam position in time. (Position & current, hard to measure exact current because of small angle scattering & if beam is at high energy cannot ignore
- 7 ports available, 4 remote controlled radial probes and another 2 portable radial probes which can be moved manually from outside of the vacuum.
- 1 'unportable' radial probe which cannot be removed shown by green arrow on the diagram.
- Another 3 bunch monitors.
- 1 faraday cup and 1 screen monitor just before injection into the ring (just outside S6 outsdie the F magnet),
- S7 two plates to measure vertical position
- S12 & S11 only one sided – relies on absolute rather than difference signal
- 1 vertical 'perturbator' shown by blue square S3
- All diagnostics & tools shown on diagram.
- S11 bunch monitor is used to measure the horizontal tune.
- Bunch monitor accuracy depends on the signal to noise ratio but they don't have a particular value for accuracy. Measured the capacitance & calibrated with faraday cup.
- Radial probe & position monitor rely on a measured distance between surface of flange & end of the radial probe. Move the device in until you see it stops the beam – not at OTR, just relies on stopping the beam. Accurate to survey accuracy. Observe the timing at which the beam is stopped during acceleration & calculate the position of the orbit.
- Injection measurements will be presented at Vancouver. They are pretty happy with injection efficiency at present, the stripping foil is quite small so currently only 50% stripping efficiency, could perhaps focus the beam to match the foil size or increase the foil size.