Beam Study Subjects in KURRI FFAG

Items already done

1. Injection Efficiency -> ~ 40 %

2. COD measurement w/ and w/o the rf cavity
   w/o cavity : good agreement with simulations based on TOSCA field
   w/ cavity : simulations say cavity makes 50 mrad kick
   Tune calculation using bunch monitor signal (Suzie and Machida-san)
   Energy spread calculation (David)
   Beam energy estimation using FFT analysis -> 10.89 +/- 0.11 MeV

3. Injection beam properties in BT line (LINAC to Main Ring)
   Beam energy by TOF 10.76 +/- 0.13 MeV
   Momentum spread +/- 1.3%
   Beam energy is varying in time by 1.6 % within 30us beam pulse

4. RF pattern improvement (T. Uesugi giving 2-min. talk today)

Items todo

1. COD correction using correction current on the coils of D poles neighbouring the rf cavity (16 % increase)

2. RF pattern improvement considering local k(r) with real data

3. Dispersion and twiss matching between BT line and the MR.

4. Tune measurement from the injection to the extraction

5. RF stacking at the extraction energy