KURRI FFAG MEETING 01/03/2017
Google+ hangout meeting

Attendees:
S. Sheehy - Oxford
D. Kelliher, S Machida, C. Prior, C. Rogers - RAL
F Meot, J. S. Berg - BNL
Y. Mori, Y Ishi, T Uesugi, Y. Kuriyama - KURRI

Minutes:

1. Ishi-san: Status of KURRI machine
   - Alignment was done in January. All OK. Power testing for RFQ done on 13/2 and was OK. But there was an issue with bad control boards, which needed replacement. Awaiting replacement repaired boards from AccSys.
   - Hopefully new boards will arrive this week and then RF testing should start from Monday 6th March.
   - Along with RF testing, need to do ion source testing and conditioning and then late in March beam tests in LINAC and then inject beam early April.

   Q: what are the immediate plans for users/operation?
   A: One user has been waiting, so he will take priority (for 1 week or so).

   Mori – hopefully injection line for MERIT will be installed in mid to late May. This may have to be scheduled around this collaboration run.

   Discussion on scheduling into June perhaps. Further discussion offline to arrange the plan.

2. Kuriyama-san: Hadron-KEK server update
   - New web server required to replace it, for data around 100GB.
   - Hosting service is probably quite expensive
   - Create new webserver using KURRI-provided global IP address and a new computer
   - Time-wise it depends on access to the old server and data
   - The new computer will be purchased new so can be made compatible with the existing mac-based (HFS) system
   - (J.S. Berg suggests to literally connect the old hard drive to the new)

3. Shinji Machida: Also on Hadron-KEK server
   - We have set up a mirror of hadron.kek.jp for this collaboration at
   - http://ffag.pp.rl.ac.uk/colabo
   - Shinji proposes that in the meantime this is made the 'main' server (hadron.kek.jp should be 'frozen'), which will be used until Kuriyama-san's new system is working. Then it can be in master/mirror mode again.
   - Some additional files related to FFAG may also be copied across

4. Chris Prior – expansion off the midplane
   - Chris described a method he used to generate expansions from the midplane of magnetic field, starting with Bz field on midplane, uses scalar potential. Calculates to high accuracy starting from monomials to generate co-efficients.
   - Coded and tested this and gets a precision of 10^-10 very quickly for an analytical model (not sure for 'real' maps yet)

- Goes up to something like 10th order
- Next step is to test with a 'real' FFAG field and then to think about integrating into tracking codes
- (Some discussion over accuracy, modelling procedure, criteria etc…)

5. Shinji Machida – dynamic aperture in KURRI FFAG
   - Define DA as survival as 1000 turns, set vertical amplitude to 1 pi, energy 11 MeV, then scan the tune space to see how the DA depends on tune
   - Studies including different order of expansion in z.
   - 3rd order systematic resonance is very strong
   - Note that the actual movement of the tune during acceleration moves into a region of lower DA, which may be a cause of slow loss
   - Discussion of an idea to compare to experimental data

   Before the next meeting plans will hopefully emerge for the upcoming experiments/schedule. (After the meeting, we agreed to wait until the next meeting on 13 April because it is hard to plan until we see the beam in the FFAG in middle April.)

6. Next meeting: scheduled for Thursday 13th April.