Minutes of the Beam Development Strategy Committee Meeting

October 17th, 2016 at 14:45 in the MOB Business Office Meeting Room

Present:
Chris Ruiz (Recorder), Jens Dilling, Oliver Kester, Barry Davids, Peter Kunz, Jens Lassen, Friedhelm Ames, Keerthi Jayamanna, Bob Laxdal, Adam Garnsworthy, Alex Gottberg

1. **Development Progress with SiC + IG-LIS**

   High priority developments for this target were ^{7}Be (overall yield, and Be/Li ratio) and ^{20}Mg.

   ^{7}Be yield was much lower than required for astro experiments (1e+6 /sec). PK thinks that pure graphite target is needed. However, most of Li was suppressed with IG-LIS running under non-optimal conditions. This bodes well for using IG-LIS in combination with whatever target is chosen for ^{7}Be. Therefore one part of this development can be considered done, while the other remains unresolved.

   In response, add ^{7}Be yield measurement to LPTa+TRILIS+rotating beam combo which starts in November, as short-lived berylliums are priority for that target anyway. A successful yield measurement from Ta, combined with IG-LIS (Be/Li) data, would constitute a successful overall 7Be development. Otherwise, ^{7}Be has to be attempted with graphite (a new target material) and thus moved the "difficult" category on the development spreadsheet.

   There was some discussion as to why ^{20}Mg required the IG-LIS. It was not performed because of IG-LIS difficulties. The inherited comments from the 2014 beam development sheet state that Na contamination may be an issue for the experiment, without details, hence the need for IG-LIS. However nothing in the proposal says anything about Na. Matt Pearson says that Na only becomes an issue if the space charge is huge, or at A=22 for radiological reasons. Other than that, the Na contamination doesn't affect the physics result, whereas the ^{20}Mg yield does. Data from running on the higher magnesia this December will help the proponents to determine whether Na is really an issue or not. In the meantime CR will not change the development entry for ^{20}Mg. If it is determined that the experiment can live with Na from a SiC+TRILIS, the line item will be dropped from the spreadsheet.

2. **Remaining schedule 131 yield measurements & development tests**

Broken manipulator arm has delayed the installation of the SiC+FEBIAD combo by about 6 shifts. This eats into the proposed High priority FEBIAD development using O and Ne. Discussion with the beam scheduler (BD) and ALD (JD) resulted in a proposal to extend the production shifts by 6 (allowing S1537 to retain its original number of shifts), which eliminates 6 of the FEBIAD development shifts while retaining the originally planned development shifts after target startup. This should still be enough time to perform significant optimization of the FEBIAD.

3. **Progress towards "8 kV RF Booster"**

Plan is to install RF Booster during shutdown, although schedule is tight. If achieved this would put the project ahead of schedule. It has been upgraded to 16 kV. Currently in Design Office (has gone through Gate Review). Have ordered an amplifier. Plan to commission at startup of schedule with OLIS if installed by then.

4. **Status update on TM refurbishment plan**

Accelerator Division has determined a new module is needed in rotation in order to operate a pro-active refurbishment plan. TM2 & TM4 are modules currently in rotation. TM3 currently undergoing investigation, and data drawn from this will be put into design modification over 3 months → new target TM(?) will be built. Then will have 3 modules in rotation, and can begin refurbishment schedule. New module slated for 2018.

5. **AOB:**
    a. SiC nano-fibre target development:
    Still on schedule to run this development within 2017

    b. Stable ion source development + RIBs from OLIS
    ^{44}Ti still very high priority – pressure from community. DRAGON team have performed tests with stable Ti in OLIS (Supernanogan), but require operator help to analyze data from mass scans. CR asked if this should become part of operator training. BL replied that it would be useful, yes.
    Discussion then moved to RIB in OLIS, and general point that could consider alternatives that utilize areas already prepped for radiological issues, such as mass separator room, e.g. can install new ion source down there or could use existing CSB. Warrants further discussion in future meetings.