

Beam development meeting 2010-03-01

Present: L. Merminga, J. Lassen, P. Bricault, M. Dombisky, F. Ames, G. Ball, B. Laxdal, J. Dilling, C. Ruiz, B. Jennings

Agenda:

- Present status of target & ion source for upcoming schedule (Pierre)
- Actinide target development for UC target in present target stations (Marik)
- Implantation station (Chris)
- Long(er) term beam development plans (Gordon)

Present status of target & ion source for upcoming schedule

Pierre presented the status of targets and ion sources and some findings from the off-line tests stand. A consequence can be that some extra days will be required in the upcoming schedule to accommodate changes. The target inventory is a re-occurring issue and should be discussed. Findings will be presented at the next meeting.

Actinide target development for UC target in present target stations

Marik gave a short presentation on status and plans of the UC-target and operation. Marik is the project manager for the UC-operation, including target preparation, on-line operation, and consumed target storage. Peter Kunz will assist with preparation and execution of operation. This project will also go into a Project Charter Sheet.

At present Marik is preparing target material and some preliminary characterization of the material using SEM is taking place. Once satisfactory results have been achieved, a date and members for an international review will be set. The review target date is June, and will cover target material, operation, and storage. This operation will not require and additional license from CNSC, and target date for operation is October 2010. It is planned to do two runs with UC this year. Updates will be provided next meeting (outstanding is the report of the internal review of this plan, next meeting).

Implantation station

Chris presented the status and plans for the general purpose ISAC collection station. Some preliminary discussions have taken place. C. Ruiz will be the project manager for this task, help will be provided by P. Levy (accelerator division). Byron pointed out that a Project Charter Sheet is required and Chris will fill one out. A conceptual design review will be called with technical experts and stake-holders to confirm the approach. Then a cost estimates can be made and an budget request to accelerator division be made. The timeline needs to be defined. This will be presented at the next meeting.

Long(er) term beam development plans

Gordon presented general guidance for intermediate and longer term beam developments required for the science program. Highest priority is given to the actinide target operation. Crucial are also the CSB operation, and demonstration of low-background beam delivery to experiments. A key advantage of ISAC is its higher power operation, and continued efforts in the beam rotation or rastering proton beam on target are needed.

Some detailed discussions about specific beams for example for nuclear astrophysics took place, in particular developments for ^{14}C , ^{18}Ne , ^{26}mAl , and thin foil TaC-targets. Plans for ^{14}C were discussed and the approach is to start with ^{13}C to identify ionization efficiency and possible N contamination. Al-isotope yields will be tested with the laser ionization in the upcoming schedule with the Ta-target. The test will include yield measurements of shorter-lived Al isotopes. Fast release measurements for Ne-isotopes are planned and will be carried out with the FEBIAD source in combination with a cooled transfer line.

For many developments some engineering help would be very useful, and Lia pointed out that some support can come from the VECC collaboration. This will be explored.

Next meeting and identified topics for discussion:

- Status and plans for yield station
- Target inventory and production
- General purpose collection station, concept, costs, and time line
- UC operation, internal review report, and status & schedule

Next meeting scheduled for April 7 2010