

# Minutes of the TITAN Meeting

Held on the 4th of March, 2009

**Present:** Maxime Brodeur, Thomas Brunner, Paul Delheij, Jens Dilling, Stephan Ettenauer, Melvin Good, Alain Lapierre, Matt Pearson, and Ryan Ringle

## RFQ

Dan is working to include the extra power supplies into EPICS.

Matt informed us that the new post-doc will come in May and that there will possibly also come an undergraduate student starting to work in May.

## EBIT

The extraction efficiency is at about 60 % for both K and Li. Alain is now working to inject ions while voltage is applied to the collector electrode. So far, this results to a very broad beam. The settings to better focus the beam are different then to the ones for the case without voltage applied to the collector electrode. But even than, the beam is still a bit defocused.

When Alain tried to inject K- ions while the electron beam is on, no K x-rays could be seen.

Due to these difficulties it is considered to turn off the electron beam and un-bias the collector electrode during injection, which will require new switches.

### *Half-life /storage time measurements:*

Thomas continued the storage time measurements but the interpretation of the data is difficult due to apparent source fluctuations: different measurements of the same data point are not consistent.

## MPET

The electric field compensation is now almost completed. Measuring K-39 with Na-23 as the reference indicated a mass dependent shift of about 0.5 ppb / u. H<sub>3</sub>O was also measured in respect to Na-23 and the result is within the error to the AME value. The next goal will be H<sub>3</sub>O versus K-41.

It was also tried to bring the oil molecule at A=58 into the trap, but the center frequency seems to depend on the cut in the number of ions and is thus not reliable. It is speculated that additionally to the oil molecule there might be something else in trap. Furthermore, the TOF distribution contains a not-understood bump in the range where we typically expect lighter masses. The hypothesis, that this is due to a break-up of the molecule, was rejected because the ratio of ions in this bump to the rest is independent of the repetition rate.

## CPET

The shipping of the magnet is delayed.

Mel is preparing drawings which we should have an internal discussion about. Paul will send the drawings to everyone on Friday and will present them next week.

Rick will also need

x) a feeling about the emittance of the EBIT and

x) a magnetic field description

**Ge-detectors**

Thomas made a detailed study of the peak shapes with and without magnetic field (5 T in EBIT, about 0.6 T at detector position) of the 45 keV Kbeta line in the decay of Eu-152. No deviations in means of efficiency, peak shape, or resolution were found.

A next step will include a cross check of the magnetic field at the position of the detector. It is also planned to increase the magnetic field at the position of the detector (either by increasing the EBIT's field to 6 T, or to move the detector closer to the trapping center.

**Al<sub>2</sub>O<sub>3</sub> - target**

The Al<sub>2</sub>O<sub>3</sub> target has arrived and there might be a chance for measuring C-10 in the last week of March.