

# **Minutes of the TITAN Meeting**

Held on the 2nd of February, 2009

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

## **EBIT**

For injection Alain continued work to align the beam with the magnetic axis. Simulations in SimIon showed that a beam injected on axis would lead to a point on the MCP's phosphor screen (behind the EBIT) while a beam injected off axis would result to a ring on the screen. By steering the beam this could be confirmed experimentally. Thus, the phosphor screen is considered to be a valuable diagnostics tool to check if the beam is injected on axis.

It was also considered to install a second slit assembly (right after the switch yard), but this would require an additional MCP (or a Daly detector) directly after this slit assembly. Additionally, we do not know if the beam line axis equals the axis of the EBIT, which itself might not be aligned with the magnetic field axis. So, slits would only be useful for a coarse alignment of beam and magnetic field axis, but we know already that we have 100% capturing efficiency, thus, a coarse alignment is not necessary. So, it was concluded that relying on the beam spot on the MCP's phosphor screen would be sufficient.

The count rate of x-rays (of an injected species) could also serve as an indicator whether the beam is on-axis.

Alain confirmed again that injection matters for ejection. There remains a difference between the simulation and the experimentally used voltages. In SimIon the experimental values lead to a large beam size, which is not observed experimentally. Maybe there is something wrong with the wiring. This will be checked in the next days.

## **MPET**

Maxime tried to reproduce the correction voltages with theoretical calculations, but the values differ from those used experimentally: While the tube voltage is about the same, the guard voltage differs by about 10 V between the calculation and the currently used value.

Dipole cleaning test were started and it is planned to benchmark the resolving power of the dipole cleaning: By applying the dipole RF followed by the quadrupole RF, it will be tested how close the applied dipole frequency can be to the one of the ion of interest without disturbing the latter's resonance after the quadrupole RF.

A re-fill of liquid He is planned for this week.

## **Communication between LabView and EPICS**

Thomas is working to set up communication between LabView and EPICS which would allow an easy way to scan through voltages applied to lenses and read out MCS counts.

Vladimir was able to control EPICS variables by a Perl script (which talked to MIDAS being itself communicating with EPICS).

Thomas will continue for another 2 days, but if the communication cannot be set up, a meeting will be arranged on Thursday.

### **CPET**

A meeting with Gerald took place last Thursday. It is clear that the length of the CPET beamline is critical since space is limited on the platform. Mel is considering how to alter the design of the CPET to make it shorter.

Between CPET and MPET we will need a focusing element as well as a MCP for diagnostics.

It was also discussed whether the platform could be “extended” by adding a second (removable) bridge attached to the platform on the MPET’s side.