Hi everyone,

I will try to give an account on the morning shift of today:

Despite all problems with UNILAC and SIS18, we got beam (Fe, 25+, 500 MeV/u, N< 1E8 per spill) to HTP at about 7 in the morning. The beam time was interrupted by ongoing activities on the Alvarez amplifiers and other problems (Rad. Prot. Interlocks, Data supply trouble, etc.). In total we could test our detectors for about 3-4 hours. There was no chance for Alice to get any data.

Some preliminary results:

1) Reference detectors

HTPDI1I and HTPDI1S seem to work ok. Their particle numbers correspond roughly, but the total number of counts for the SEM detector was rather low (3.500 counts) for the 600 ms long spill. For both detectors the conversion factors (part. no./count) was checked via independent calculations.

I saw a reasonable "spill signal" from the plastic scintillator HTPDI1P when it was in the outer end position, but this detector was not my main concern.

2) Multi-wire chamber HTPDG1G

The wire chamber worked ok and showed a nice distribution with little background. I changed the high voltage for some preliminary tests.

3) The new scintillating screen HTPDF2 and OTR camera HTPDFA The new screen DF2 delivered a very nice beam image (see attachment). Beata and Christiane used the hardware in triggered and free-run mode during an initial test, then set it to triggered operation for the rest of the beam time.

Thanks to the programming efforts of Harald and Rainer the software works very nicely. Camera, lens and LED can be remotely controlled.

For OTR tests, the particle number was clearly to low. The camera works ok, but the test LED does not.

4) SEM grid HTPDG2

The beam was too weak to detect a signal with slow extraction.

Rainer Johänntges has some doubts on the correct operation of one of the two I/U amplifier units. This device should be quickly tested whenever we have fast extraction. It can be used for comparison of profiles of DF2 and DFA or of the screen ladder.

5) QFW test

The hardware is ok, but only a few minutes with accidental beam were available when the Alvarez 3 amplifiers was operated in manual mode (i.e. it was not synchronised to the beam cycle). Michael and Jochen detected some hint of beam in front of the dump with the profile grid.

Further results of other tests can be summarised in tomorrow`s R&D meeting! A lot of people did tests with their respective hardware.

Proposal for next steps:

The first shift on the 6th of March should see the continuation of our commissioning tests:

1) Slow extraction:

Quick tests of QFW, beam loss monitors and BIF (?) at the beginning.

This requires little beam time.

2) Switch to fast extraction:

a) Test of reference detectors RT and FCT

b) Test of DF2 and OTR cameras (correct trigger for fast extraction)

c) Test of SEM grid (a few cycles to evaluate, if the hardware is faulty and needs to be replaced during the break 10-12th March) These activities can be done in parallel.

d) Preparation of beam for screen measurements by Alice:

In-out (background) test with SEM grid HTPDG3 (SEM grid in front of dump) to check if parallel operation is ok. No disturbance on the target ladder profiles must be detectable. We should check this!

After that we have 3 shifts which should be dedicated to (as far as I remember):

a) screen data for Alice

b) OTR tests (Uranium, high charge state)

c) BIF

Other tests can be done in parallel.

Finally, some good news: There are positive signs that Uranium operation seems possible now. Perhaps we can be slightly optimistic.

Regards,

Andreas