

End Week 50 (December 11th 2012) – Status of Accelerators

Statistics

nTOF: <https://espace.cern.ch/be-dep/OP/PS/default.aspx>

CNGS: https://accstat.web.cern.ch/accstat/statistics/charts/2012/SPS/CNGS_Target_Cumul2012.jpeg

LHC: <http://lhc-statistics.web.cern.ch/LHC-Statistics/index.php>

TI (Peter Sollander)

TI summary in the usual place: <http://wikis/display/TIOP/2012/12/10/TI+summary,+week+50+2012>

Very quiet last week.

ISOLDE (Erwin Siesling)

GPS:

The 44Ti run for the IS543 experiment at the REX L20 line (re)continued after a week on pause when the central beamline was used for last weeks Pb run on HRS.

Getting the Ti beam back to the end of the REX Linac was not as easy as we thought after the problems we had with the fire in the water station and flooding of the REX EBIS and Trap last weekend but we managed. We also re-tuned the Linac for a lower energy which was asked for by the users.

The yields were rather low from the target but users were very happy and sent us and the Isolde community their thanks.

HRS:

Target was changed on monday to the last UC target for a few remaining RABBIT irradiations (monday-morning) followed by the IS540 target and ion source development dedicated experiment and the IS541 experiment for ^{11}Be at the LA2 line.

Main issue for the IS540 yield tests is an unstable countrate at the tape-station which vary from shot to shot for no reason. We located a malfunctioning power supply for one of the electrostatic elements (CAO.QS40-B) but this did not solve the problem intirely. We have this problem since a few months and it is not completely understood.

The Be run for IS541 involved RILIS laser ionization and quite some tuning of the cooler and lines to get the beam going. No major issues there, just time consuming. On Friday morning we had the ^{11}Be beam optimised and users have been taking beam happily over the weekend.

Protons stopped this morning as 6h and now stable beam is used from HRS to tune into the Mistral line for tests.

Also RILIS laser tests will be going on from this evening until tuesday night.

Isolde will be switched off on wednesday by locking its power supplies.

After the Christmas break we will re-start the Linac and EBIS for HIE Isolde tests until 15 February when the HIE Isolde civil engineering works in the hall and modifications on the existing installations will start.

LEIR (Christian Carli)

Quiet week for LEIR.

Temporarily, from the MD on Wednesday until Friday, accumulated and extracted intensities were lower than what we were used to over the last weeks (since the Linac3 tank2 phase change). One of the reasons was a faulty Linac3 quadrupole (!) power supply, which was repaired on Friday. After several partly successful attempts to (re-)tune LEIR, it is difficult to figure out possible other reasons.

At the very end of the run, accumulated intensities were again well above nominal values with the "usual" loss at capture and early acceleration resulting in extracted intensity reduced to nominal values.

Booster (Jocelyn Tan)

The PSB has had a smooth run during the last week

Tuesday

Greg and Chris have reconfigured particles transfers and accelerator zones in LSA as a necessary preparation for YASP for the PSB extraction. YASP for PS injection has been repaired in this context (new particle transfer).

Wednesday

BE4.KFA14L1 went down at 7:45AM : B.Bleus was called first and diagnosed an oil circulation issue on the dump switch. R. Noulibos, another specialist, was called: he did a successful local reset. Down time :46mn.

Thursday

At 3:45PM, there was a beam cut for 48mn for a PS intervention.

The last BLM of HRS was triggering too often. The operator changed BTY.DVT303 from 7.5 to -2A for decreasing the losses from 140 to 20. But this spoiled Isolde's steering.

Friday

The beam was cut for 5mn by the vacuum valve LI.VVS20 which was closed.

Smooth week end

Monday

Start of TS5 : Beam cut at 6AM

PS (Rende Steerenberg)

The PS had a very good week and the emphasis was on preparing and providing the 48 bunch high brightness (h=9) LHC 25 ns beam to the SPS and LHC. Normal physics beam were also delivered successfully to the East Area, AD, nTOF and the SPS.

POPS caused in total about 3.5 hours beam stop last week over several trips, but Saturday afternoon in particular. The other element that caused about 2.5 hours beam stop was one of the power supplies of the extraction bump (PE.BSW16-14) that regularly tripped. Thursday afternoon a 1 hour access in the PS was organised to repair the spare 10 Mhz cavity to ensure its availability over the weekend.

Following SPS extraction and LHC injection difficulties for the 48 bunch 25ns beam a 12 bunch version was quickly prepared in the PS on Thursday. In addition the new extraction bump, no longer using the dipoles in SS15, was deployed and further optimised on the nTOF beam.

All PS equipments, except the TT2 magnets, were stopped at 06:00 on Monday. The TT2 line remains on in order to avoid freezing the PSB+TT2 cooling tower.

SPS (Karel Cornelis)

The last week of beam operations was very productive for the heavy ion physics. The beam availability of ions to the NA area was 95%, downtime caused mainly by PS (POPS and RF). In the SPS we lost a couple of hours, due to a horizontal corrector in TT20, which went to I_{max} just by itself. According to the last information from the users, the data taking was progressing as foreseen, and we will be able to switch to a next energy at start up in January.

On the LHC side we continued sending mainly 25nsec beams for scrubbing and MD's. We had a few issues with the H9 beam transfer (beam position interlock, re-phasing to local clock) but in the end it all got de-bugged. The SPS MD of last Wednesday, on collimator studies in coast, could not take place, since LHC was asking continuously beam for TDI setting up.

LHC

Set-up for 25 MD and physics. Followed by runs for said. Successful despite a number of technical issues.

<http://lhc-commissioning.web.cern.ch/lhc-commissioning/>