

Accelerator complex status

End week 37 (Sunday 14th September 2014)

TI (Peter Sollander)

The TI summary for last week

here, <https://wikis/display/TIOP/2014/09/15/TI+summary+week+37,+2014>

Nothing really major. -- There have been some recurring problems with water pumps in BA81, not only last weekend, but for some weeks now.

Linacs (Richard Scrivens)

Linac2 – smooth operation

Linac3 - during the MD day:

- RF controls were tested.
- Tests were made with space charge compensation with gases at low energy, to be continued.
- Maintenance on the water station controls was done.

Otherwise very smooth operation.

LEIR (Michael Bodendorfer)

The week was short due to Jeune Genevois and the potential bridge-friday.

Tuesday, Sept. 9th: Investigation is ongoing about ripples on main quadrupole power supplies. Marc Magrans leads the investigation. He discovers that the front end of ER.QDN2040 is permanently down and needs replacing.

Friday, Sept. 12th: Beam is back in LEIR. We measure on ETP.BCT10 (towards the PS): maximum $1.2E10$ charges per bunch. Note: LEIR operates in Argon beam with H1 -> one single bunch per extraction (unlike with Pb54 where it extracted two bunches in NOMINAL (H2) and one bunch in EARLY (H1)). Accumulated intensity is $2.1E10$ charges in LEIR right after the (single) 200 micro-second multi-turn injection.

Saturday, Sept. 13th: The Low Level Digital RF server crashed. Resetting the server brought back beam in LEIR. This server has been exchanged in August. The new server is in focus to see whether it features a higher level of run time stability compared to the old server.

Sunday, Sept 14th: since Saturday, uninterrupted LEIR performance. Extracted beam intensity is stable at avg. $0.9E10$ charges with a standard deviation of $0.11E10$ charges (>10000 samples).

Plan for next week: we will try to reconfigure LEIR from the bare machine in order to obtain a working control system hierarchy.

Booster (Jocelyn Tan)

Tuesday

In the morning there was no beam for 12mn due to a reload of the MTG.

Wednesday

In the morning, a wrong action from the East zone alveole, perturbed the PSB extraction line: BE extraction kicker timing errors and BT.BHZ20 down. The beam in the PSB was inhibited to stop beam loss. Down time: 22mn

BR1.C16 tripped in the night. The operator went locally and touched the flow meter (Eletta): the interlock disappeared.

Thursday

The RF piquet came and adjusted the flowmeter.

The PIVAC was called for an alarm on BT2.VRPA11A. He diagnosed a communication issue and will follow this up.

When the PS asked for low SFTPRO beams, the shavers are purposely used. The PIPO was called for the ring4 shaver, horizontal plane. He came and fixed a timing problem.

Friday

In the afternoon, the PIPO was called for the shavers. It affected EAST beams (intensity fluctuations). The issue was fixed after replacement of a controls board.

BEAMS

ISOLDE: more than $3000e10$ p with balanced bunches

SFTPRO2: $500e10$ p in all rings but ring4 ($450e10$)

PS (Jakub Wozniak)

It was a very good week for the PS with only several short interruptions. The beams are delivered to AD, nTOF, EAST and end of the week, finally SPS.

On Monday we had a GN->TN disconnection test that had some negative effects on starting up controls applications.

On Tuesday morning there was no beam for 30 minutes due to central timing reboot that was followed by a POPS shutdown with no automatic restart possible.

It was also announced that until further notice the wire-scanners in the PS and PSB should only be used from the CCC only with permission of the shift leaders spaced by minimum of 10 seconds.

This is due to the recent failures of wire-scanners 54/68 in the PS. The replacement of those failed ones is planned for this week based on the SPS permission.

Wednesday was also calm with a beam stop of around 2h30 minutes originally caused by a wrong manipulation on the door in the EAST area but finally used as intervention on the SPS quad in the TT10 line.

End of the week was also rather quiet with erratic problems coming from cavities that had to be restarted, QKE25 & QKE73 pulsing at wrong values and radiation alarms in the AD zone.

On Friday night the SPS took its first beam from the PS.

On Saturday around 16:00 we have discovered problems with F16.BHZ377 which the piquet team diagnosed as an earth problem and a short circuit. The intervention for this magnet took around 6h from the beam time.

Finally today night we had a power supply problem on PR.WFNI which resulted in no beam for all users for around 3.5h of downtime.

SPS (Karel Cornelis)

The main issue during the past week was the replacement of a water cooled cable, feeding the QD circuit in BA3. The cable was replaced by two warm cables (400mm² each). The work took three full days, from Wednesday to Friday evening. On Friday we resumed the preparation of the SPS to take beam. We lost several hours trying to undo the different safety modifications in the main power convertors (ground rods, door switches, stop buttons), which were implemented to allow the work on the cable. The first line intervention was not instructed on these procedure and all the experts were gone. Unfortunately there was a spark on the MKD just before we were ready and the kicker had to be reconditioned.

Finally we managed take beam at around 4 'o clock on Saturday morning. The FT beam went immediately down TT10 and it was not too difficult to make it circulate in the SPS. With the help of Thomas Bohl we managed to capture and accelerate the FT beam on Saturday. On Sunday the 25nsec beam, 12 bunches, was injected and accelerated, again with the excellent help of RF experts. Today the plan is to work on the BPM's in order to get the best quality for the beam based alignment

ISOLDE (Pascal Fernier)

GPS : target # 509 Uc2C – run @50kV

Users : GLM, GHM, IDS sur ligne RC4

Isotopes : 56Mn, 57Mn, 59Mn, 64Mn, 66Mn, 68Mn, 83Rb.

- Protons scan sur le convertisseur de la cible et faisceau pour les physiciens.
- Utilisateurs satisfaits par les collections de data ; arrêt des collections samedi 14H00.
- Pb : 7 arrêts chauffage cible / arrêt HT / arrêt front-end computer HT / en 4 jours ; on suspect que ces arrêts sont dus a des claquages HT.
- Nouvel élément : arrêt en même temps de la HT HRS.

HRS : target # 507 Uc Ta -run @50kV

Users : Windmill sur ligne LA1 et Isoltrap

- Setting up du faisceau jusqu'à la ligne LA1 et optimisation de la transmission avec par le nouveau logiciel de Tim Giles.
- Pb : le séparateur MAG60 ne fonctionne pas correctement et a nécessité de nombreuses interventions ; la communication teslameter > front-end computer s'arrête en fin de cycle l'asservissement de courant de MAG60 devait être réalisé manuellement.
- Lundi matin changement d'un boîtier interface Ethernet / GPIB connecté au teslamètre et les tests ont validé la réparation