

Accelerator complex status

End week 12 (Sunday 22nd March 2015)

TI (Jesper Nielsen)

<https://wikis/display/TIOP/2015/03/23/TI+summary+week+12%2C+2015>

Linacs (Richard Scrivens)

It was a very quiet week at both Linacs. Nothing significant to report.

Linac3 could make some MDs during half of the technical stop, with the aim to try and measure the source energy spread.

LEIR (Steen Jensen)

It has been another quiet week for LEIR:

- The TS on Thursday went smoothly, with only a few minor issues in starting up again (multiple resets of certain power supplies)
- On Friday night the cavity ER.CRF41 tripped, but a reset/restart cleared the problem.
- We are still working on optimizing the Stray Field Compensation (SFC) system to further stabilize intensities.

Booster (Bettina Mikulec)

Good week without major issues for the PSB, but shortened by the technical stop.

All beams were stopped on Thursday at 5:30am. During the TS several interventions in- and outside of the machine took place. IT, CO and EPC interventions, LL-RF firmware upgrade, installation of additional CTR-Vs for the extraction and recombination kickers, exchange of micro-switches for the MPS, exchange of one faulty BLM connector, inspections and in particular the exchange of 2 wire scanners. After vacuum reconditioning beam was back on Friday at 11:30. We are now again running with a full set of wire scanners.

During the TS two cables for the horizontal and vertical plane of one extraction pickup have been inverted; this will be corrected at the surface today. J. Tan is continuing his investigations on the open issues we are still facing with the last two pickups before PSB injection.

This week the doublet beam has been set up and the ISOLDE beam prepared for the ISOLDE startup after Easter.

PS (Guido Sterbini)

It was an overall good week for the PS.

The first part of the week was dedicated to the ions production, the setting up for the doublet beam (LHC25ns 72 bunches) and the reference orbit measurements at 10 GeV. The most significant downtime (~2.5 h) was due to a problem with the PFW generator.

All high intensity and ion beams were respectively stopped on Wednesday at 07h00 and on Thursday at 05h30 in view of the Technical Stop. During the Technical Stop the wire scanners new firmware was deployed, an intervention on the C40-77 amplifier addressed its limitation with the high intensity beams, the vacuum leak on C80-08 was localized (but it was not repaired), the PS access system was

modified to allow LEIR beam during PS RING access (and its now operational), the fourth (out of six) amplifier of the longitudinal damper was installed, several software updates (OASIS, MIL1553 and CO) took place.

On Friday the beam conditions were easily recovered.

During the weekend SFTPRO extraction was adjusted to minimize losses and the MTE measurement campaign continued profiting of the wire scanner new firmware.

SPS (Hannes Bartosik)

After all it was a good week for the SPS. The Ar- ion beam availability for the North Area experiments was very good, except for a few hours Wednesday morning for a vacuum leak detection, the planned change of beam energy as well as the technical stop between Thursday morning and Friday midday.

In more detail:

- On Tuesday morning, the vacuum group informed us about pressure rise between sector 21080 and 21180 of the SPS with a clear correlation of the pressure level with the magnetic ramp to 450 GeV. The vacuum level could be stabilised by removing the LHC pilot cycle from the sequence, keeping only the Ar- ion cycle with its flat top at 66.6 GeV (proton equivalent) in the sequence. Like that beam could still be delivered to the North Area experiments.
- It was decided to perform a vacuum leak detection on Wednesday morning with pulsing main magnets (magnet patrol mode). The leak could be localised in the bending magnet MBB.21130. On Wednesday afternoon the beam energy was changed to 88.9 ZGeV (proton equivalent) without problems and the beam was ready for data taking in the early evening.
- During the technical stop from Thursday morning to Friday midday, the MBB.21130 was replaced and a new dummy septum TPST in front of the magnetic extraction septum was installed (the installation of the TPST was the original reason for the technical stop). Furthermore a faulty switch of the extraction kicker in LSS4 was exchanged.
- Beam was back for physics on Friday early afternoon after some issues with the main power supplies when restarting after the technical stop. There were no major problems since then and the Ar- ion beam is sent to the North Area in stable conditions.

Proton beam:

- On Monday, the basic setup of the cycle for the doublet beam was performed with standard beams (single bunches and later 12 bunches of the standard 25 ns beam).

Since it was not possible to ramp to 450 GeV on Tuesday, the setup with doublets will be continued next week.