
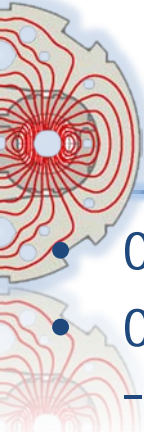
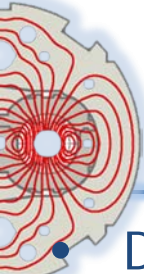


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- Mostly dominated by the Cryo intervention in point 8 for filter cleaning
 - Intervention started at 00:40 yesterday and conditions recovered at ~03:00 this morning
 - Yesterday access mostly in the morning:
 - QPS intervention in Sector 78 and 67 to replace noisy n-QPS channels that caused spurious interlocks in these sectors
 - Power converter repair replacement: RQTL11.L5B1 (FGC), RQTF.A81B1 (Power module on Aux power supply), RCBH23.R6B2 (replaced)
 - BI interventions: Wire Scanner in PM45 and BRAN US15
 - ABT intervention: PC on MKD B1, generator J
 - Pre-cycle activities in all available sectors 12 to 67 for most of the afternoon to validate the nQPS repairs and test robustness:
 - Offset observed in some of the sectors over night could not be reproduced. Not a feature of the calibration of the detectors introduced as part of the pre-cycling procedure → to be followed-up
 - Some trips observed (2 SC circuits: RQTF.A56B2 → PC, RU.L4 and 2 warm circuits RQ4 and RQ5.LR3 → PC: active filter)
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- RF: no satellite bunches observed before the “main” bunch in the SPS.
To be continued
- Parameters re-generated with b2 correction
- HWC : Tests in view of the 3.5 TeV operation: study the behavior of the RB circuits while switching off the converter and opening of the energy extraction system performed on RB.A12 and RB.A23
- ABT : Checked some interlocks for LBDS concerning BTV movement - OK for BTVSE.B1 BTVSE.B2 BTVD.B1 BTVD.B2

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- 03:00: Recovered from cryogenics
 - 03:00 - now : Problems in closing QPS quench loop of main quad in S78
- Tunnel intervention is required
 - 10:00 ?? Recovered
 - 10:00 - 12:00 : Pre-cycle for sectors 67 - 78 - 81 and BIC, Dumped beam event problem investigation
 - 12:00 - 16:00 : re-establish beam in the LHC
 - 16:00 - 18:00 : RF work (bucket number for beam 2), cavity phasing
 - 18:00 - evening: Systematic beam 2 and beam 1 measurements and corrections
 - Over night : Beta beat measurements and possible preliminary aperture measurements
 - Introduce RBAC - Postponed to tomorrow morning
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- Damper is OFF (power-wise)
 - Inject one beam: B2
 - Orbit - establish “good” orbit
 - Correct tunes to nominal
 - Measure and correct coupling
 - Measure and correct chromaticity (save spectra for each frequency offset)
 - Measure dispersion
 - Check phase beating
 - Take reference for the hump (save spectrum)
 - Inject second beam: B1
 - Orbit - establish “good” orbit
 - Correct tunes to nominal
 - Measure and correct coupling
 - Measure and correct chromaticity (save spectra for each frequency offset)
 - Measure dispersion
 - Check phase beating
 - Take reference for the hump (save spectrum)
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Hump measurements

- Inject both beams: B1&B2
 - Take reference for the hump (save spectrum)
 - Measure correlation e.g. After disconnection of Beam1/Beam2 frequencies change B1 frequency and observe effect on hump on both beams
- With single beam:
 - Measure lifetime as a function of tune w.r.t. hump position (tune scan)

Hump measurements

- List of elements ON/OFF for hump checks: PC OFF not only 0 current - one beam at a time.
 - TL magnets incl. MSI
 - Damper OFF (power-wise)
 - Orbit correctors after establishing an orbit with minimum number of correctors
 - Spool pieces RCO - RCD - RCS - RSS
 - AC dipole
 - Spectrum of BLM data at the primary collimator with RF ON and RF OFF (get value of the emittances, and all longitudinal parameters)
 - Measurements with experts:
 - Spectral analysis of the radial pick-up and damper pick-up data
 - Vary He flow of the beam screens - block all the valves regulating the flow on the beam screens - saved actual settings first
 - Make the measurements with different sets of RF modules ON while keeping the RF voltage constants
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