

• 09:00 – 13:30 Access:

- Power converter RB.A78: card replaced → to be monitored closely
- Energy extraction switch fixed
- UPS RE12 verified: OK
- RQTD.A78: water circuit purged
- Intervention on generator for MKD
- CMS solenoid ramped up
- Access for the experiments until 14:30
- 13:50 Machine closed
- 15:45: Machine ready for injection
- 16:00 : starting validation of injection setting up for high intensity
 - Got delayed by the difficulties switching back and forth between LHC PROBE and INDIV
 - Some problems in copying the transfer line settings from one user to the other

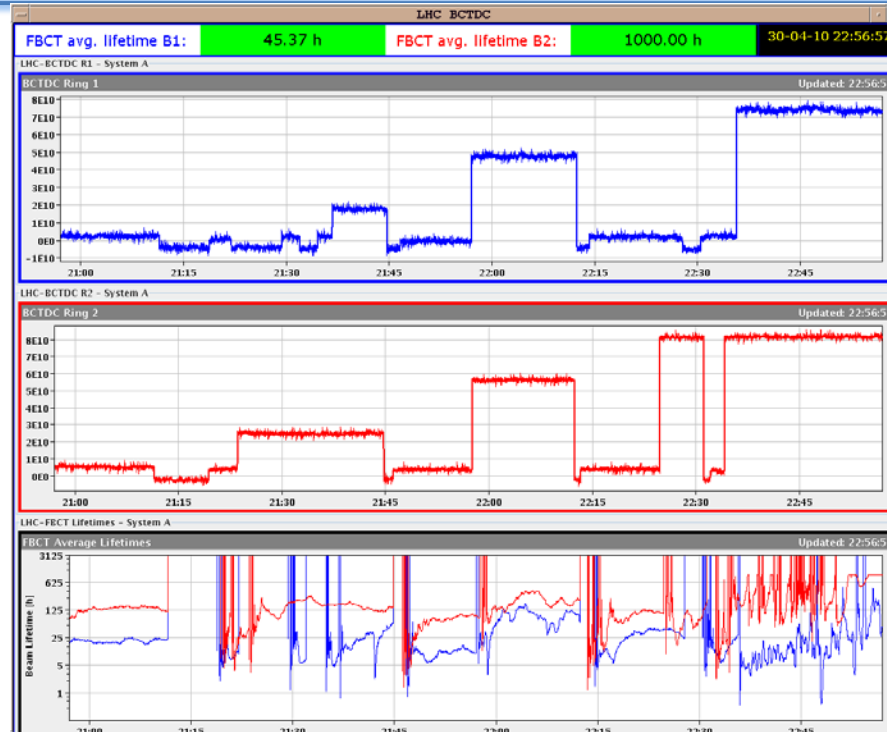
Until midnight - Injection and protection device studies - Brennan Goddard and team

- Corrected the LHC orbit back to golden
- Corrected the injection oscillation of beam 1 and beam 2
- Took some statistics over 10 injections, both lines
 - Reproducibility seems to be better: EPC worked on PC of MSE LSS4 - it improved much the reproducibility of the TI 8 trajectory
- All TL & LHC collimators put to nominal settings : Checked losses with LHCINDIV at $1e10$.
- Over-injection of both beams on the LHCPROBE at $5e9$ done by step in intensity to nominal $1e11$
- Have to mask some BLMs at TDI - seems low threshold level

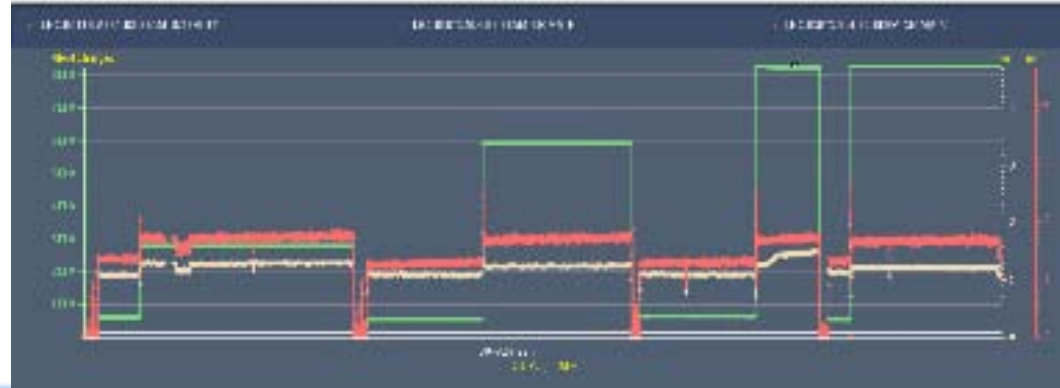
30/04/2010

- Had both beams circulating together with 1 nominal bunch
 - Asynch dump tests made with $1e11$ per beam, separately for B1 and B2. Loss maps all look OK and no problem for stable beams at a few $e11$ intensity for 450 GeV
 - No injection protection validation measurements made
 - It was noted that the B1 lifetime was consistently worse than the B2 lifetime, and was generally low.
-

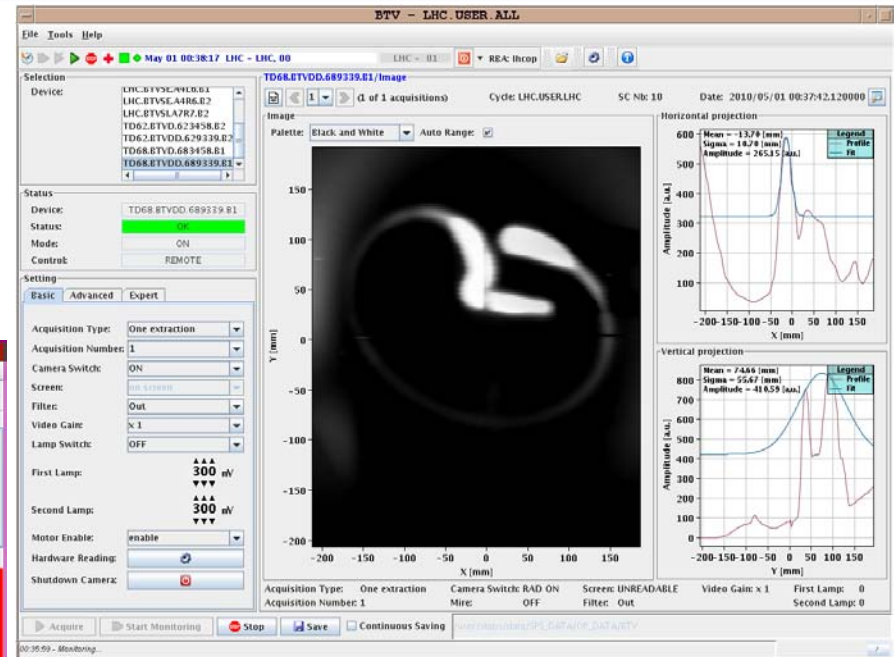
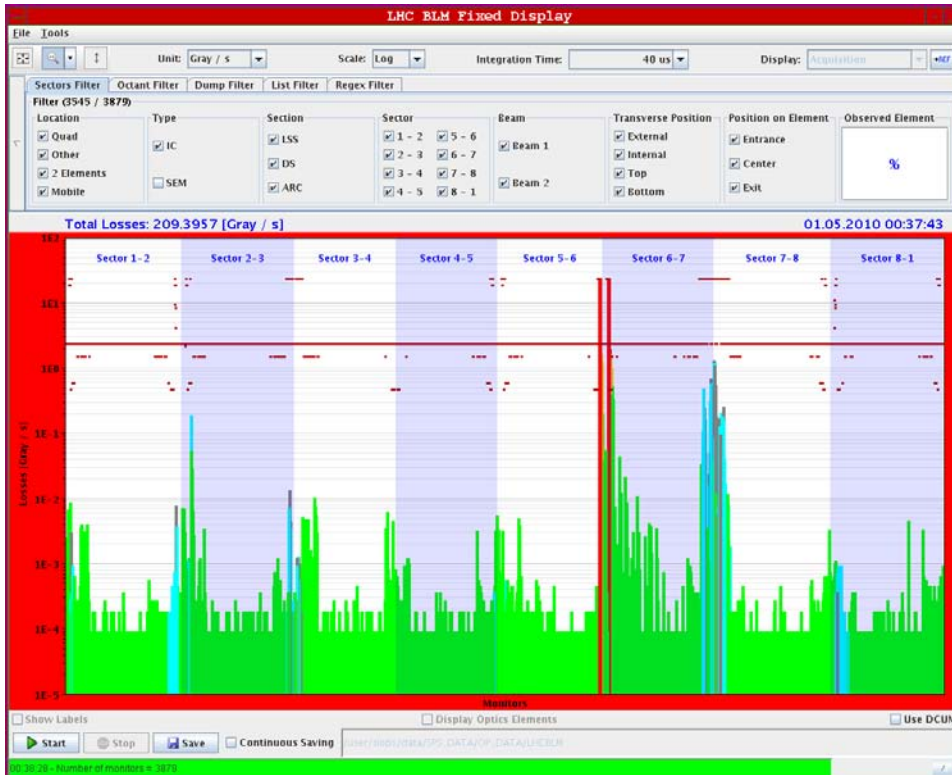
30/04/2010



Titre de la plot between 2010-04-30 16:56:10 and 2010-04-30 22:56:57 of COLI_BCTDC



30/04/2010



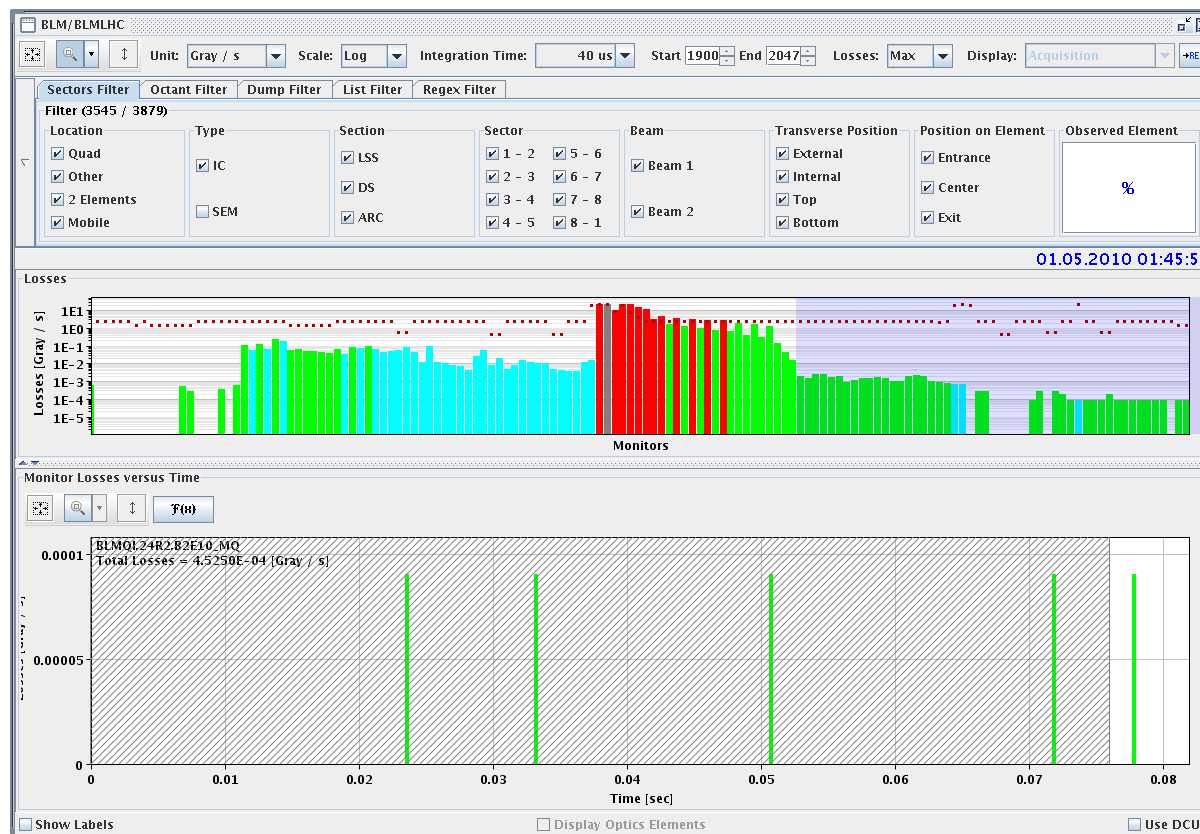


- BQMLHC B1 issues → CO

- The FESA class for the triggers, crashed a number of times.
 - No way to restart it
 - It would be important to get it back up for operations, bunch length measurements and some interlocks depend on it.
 - Bunch length measurements : all settings for Oasis scopes lost. Tried to contact experts by phone, no answer.
-
- Ghost bunch in the bucket that is 8x25ns buckets far from bucket 1 → likely generated in the PS. Being checked.
-

30/04/2010

Still one case of bad injection observed once on B1 → not understood and could not be reproduced

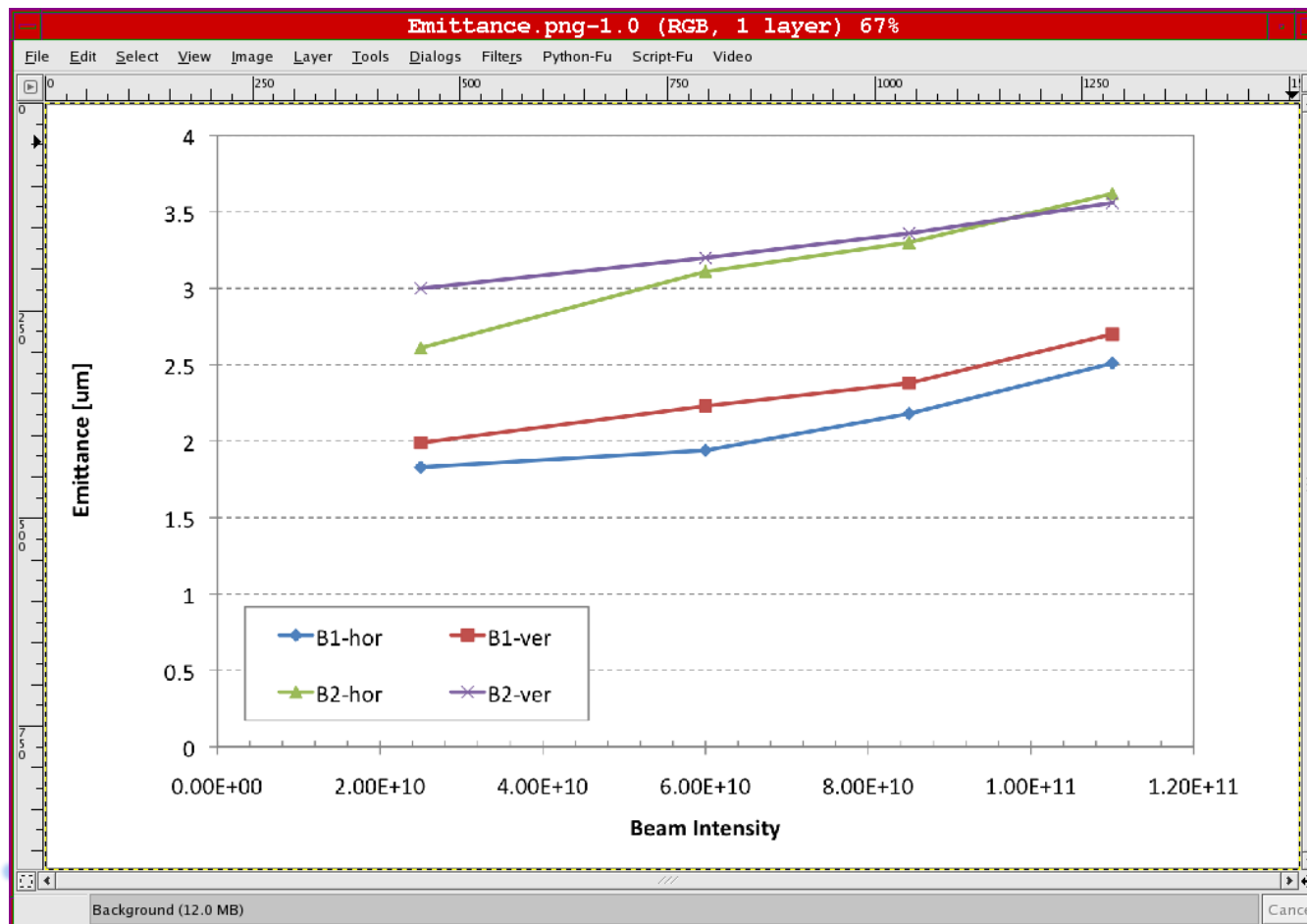


30/04/2010

Emittance evolution over the sequence of over-injection - emittances remain below nominal although larger than in the past

B1: emittance increased by a factor 1.4 from $2.5E10$ to $1.1E10$ in H&V

B2: emittance increased by a factor 1.4 in H and 1.2 in V



Chiara Bracco

01:15 - 4:45: Loss Maps - Stefano Redaelli and Daniel Wollmann

- Preliminary summary of collimator setting verification at 450GeV (for setup achieved at 07.03.2010), with bunch intensity of $\sim 1e11$ / beam
Performed loss maps - 3rd order resonance and RF change (± 500 Hz):
 - **B2** shows comparable results to the verification after the March setup
correct hierarchy of collimators (in IR3 and IR7)
No losses at TCTs in experimental IRs
Cleaning good in all cases (BLM signals outside of cleaning IRs are about a factor 10000 smaller than the signals at TCPs)
 - **B1** performance of B1 setup is less good than B2 - as seen in March.
setting of TCLA.7R3.B1 to be checked- AND BLM readings to be checked.
TCTs in IR8, IR1 and IR5 show up in the loss maps for horizontal betatron losses
(vertically small beam sizes in B1 found in the March setup at 07.03.2010?)
-

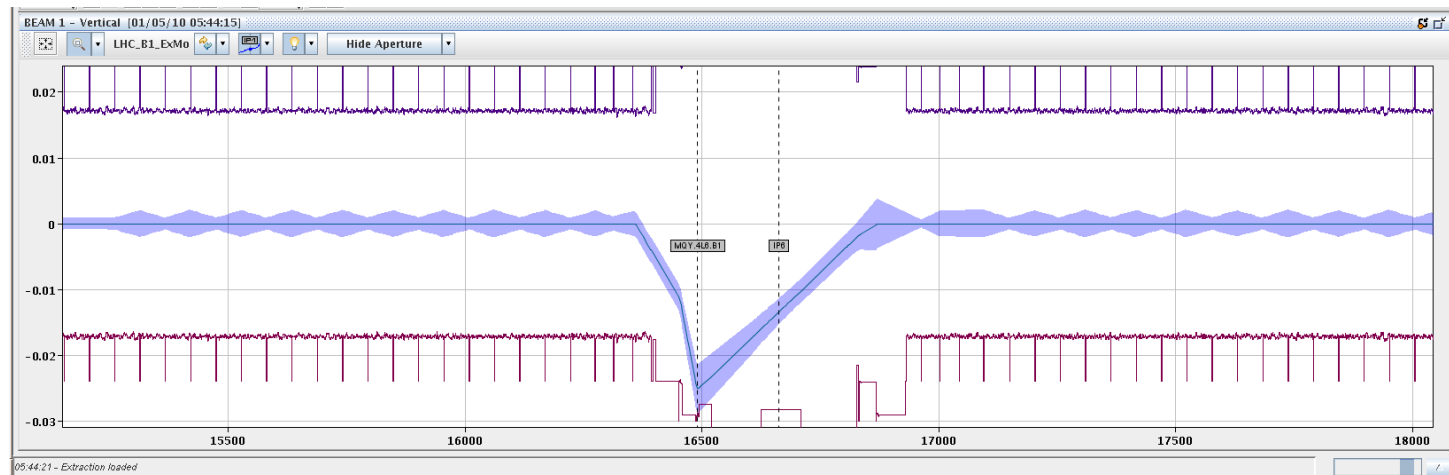
1/05/2010

Aperture measurements Massimo Giovannozzi & team

Local measurements in progress - investigated some particular areas which were suspicious from global measurements done before.

Data to be analysed in detail, first results seem to indicate that the aperture is as expected.


Off momentum measurements remain to be done



1/05/2010

7:00 - Lost communication with QPS for main circuits in Sector 34 → FIP?

Experts working. For the moment this is not stopping operation to 450 GeV but to be fixed.



30	SA	4:00	6	Aperture measurements, 450 GeV, 2-3e9
1	SA	10:00	13	450 GeV high intensity "test runs" - 2x2 - I_bunch = 4e10 - 8e10 - 1e11
1	SA	23:00	8	450 GeV high intensity physics - 2x2 - I_bunch >7e10 - STABLE BEAMS with max achieved Intensity OR Beta beat measurements in the ramp
2	SU	M	8	Bringing ATLAS up - 450 GeV high intensity "test runs" - 2x2 - I_bunch = 4e10 - 8e10 - 1e11
2	SU	A	8	450 GeV high intensity physics - 2x2 - I_bunch >7e10 - STABLE BEAMS with max achieved
2	SU	N	8	450 GeV high intensity physics - 2x2 - I_bunch >7e10 - STABLE BEAMS with max achieved

In the mean time further analysis of the loss maps before going to stable beams