

Friday 05/03/2010

- 07:00 - 13:00 : Establishing reference orbit - "golden" - *Jorg Wenninger*



Problems
Wrong polarity
on MCBXH3.L8
Polarity flag changed
in DB

Offset in vertical
plane, ~1 mm -
seems real.



Friday 05/03/2010

- 13:00 - 14:00 : Injection oscillation B1&B2 corrected, with 1-2 correctors at ~ 5 urad
Rossano Giachino
 - SPS-LHC synchronisation: Problem understood: playback averaging took into account non-LHC cycles (SPS 26 GeV) - solved.
 - RU.R4 : tripping. QPS intervention to schedule
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Friday 05/03/2010

Checks of IR6 interlock BPM

Chiara Bracco

1- Check of BPM reading

4 mm orbit bumps in point 6 (horizontal and vertical plane) for both beams were applied and reading at the BPMs were OK (difference).

2- Orbit bump triggering interlock was checked for different orbit thresholds

Offset at BPMSB.B4R6.B1 reduced to 4mm (initially 25 mm), better but still double with respect to the others.

Interlocks checked OK

MKQ - MKA checks

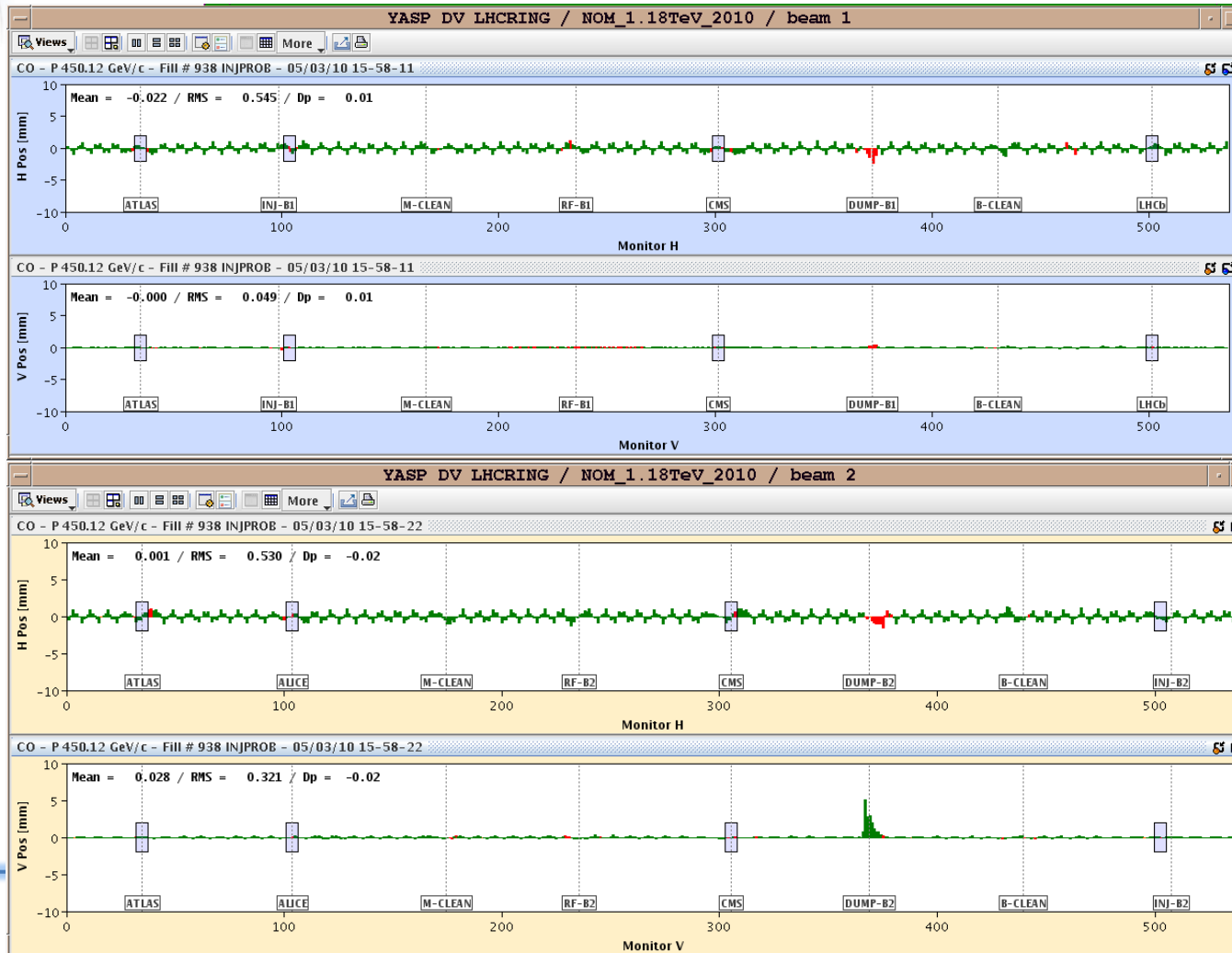
Jan Uythoven - Etienne Carlier - Brennan Goddard - Verena Kain

- Systems synchronisations checked with beam using OASIS - all OK
 - Kick strengths checked with acquired orbit data - amplitudes are reasonably consistent with the expectations - still need to check fine details
 - MKA kick amplitude is about +/-1.5 mm for 20% strength
 - Losing significant fraction of the beam in P6 (about 20%) mainly in P7 (TCP.A6L7 and TCP.B6R7) for 40% MKA strength
 - MKQ kick amplitude is about +/-1.1 mm for 100% strength, no significant losses
 - Harmonic analysis data for beta beat looks very clean with these big kicks - some problems with Multiurn application to analyse B2 were fixed
 - Functioning of interlock key for MKQ/Q checked and OK
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- From 14:00 : Switching ON spectrometers + compensators
 - all spectrometers @ negative polarity - to note LHCb “preferred physics mode” is positive polarity
 - CMS
 - LHCb together with CMS
 - ALICE spectrometer - when LHCb is done
 - ALICE solenoid when CMS is completed
 - *ATLAS - already on and compensated globally*
 - Compensation chronology:
 - LHCb (negative polarity)
 - CMS - coupling - check knobs
 - ALICE spectrometer (negative polarity)
 - ALICE solenoid
-

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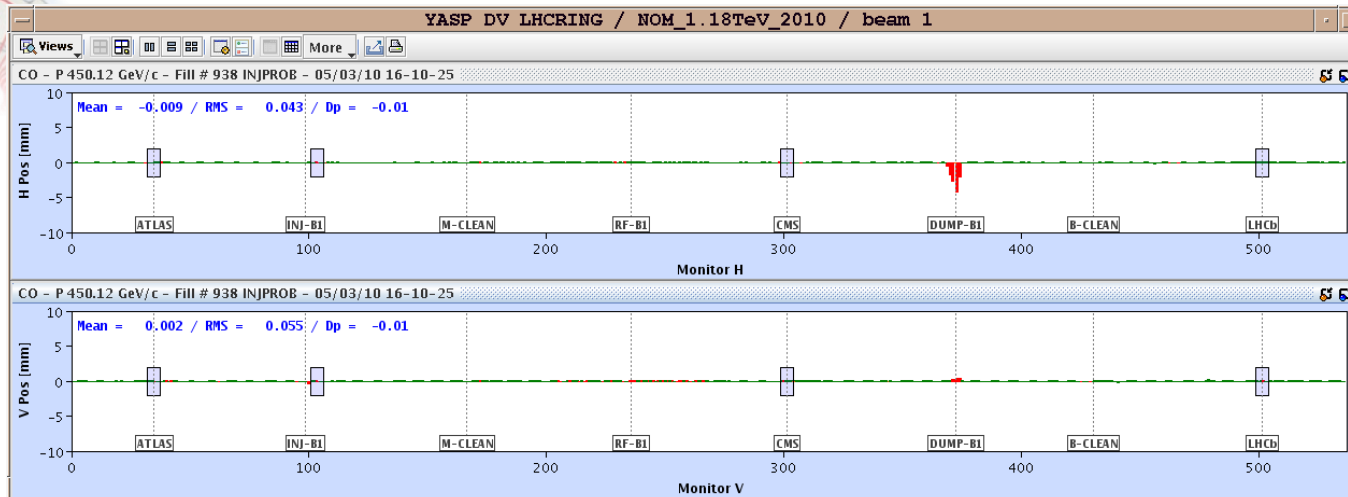
Non-closure of the LHCb dipole magnet bump at full field is a factor 2 better than in 2009 (with the new field map). The rms non-closures are 0.53/0.54 mm for beam1/2 (was > 1 mm in 2009) - Good!



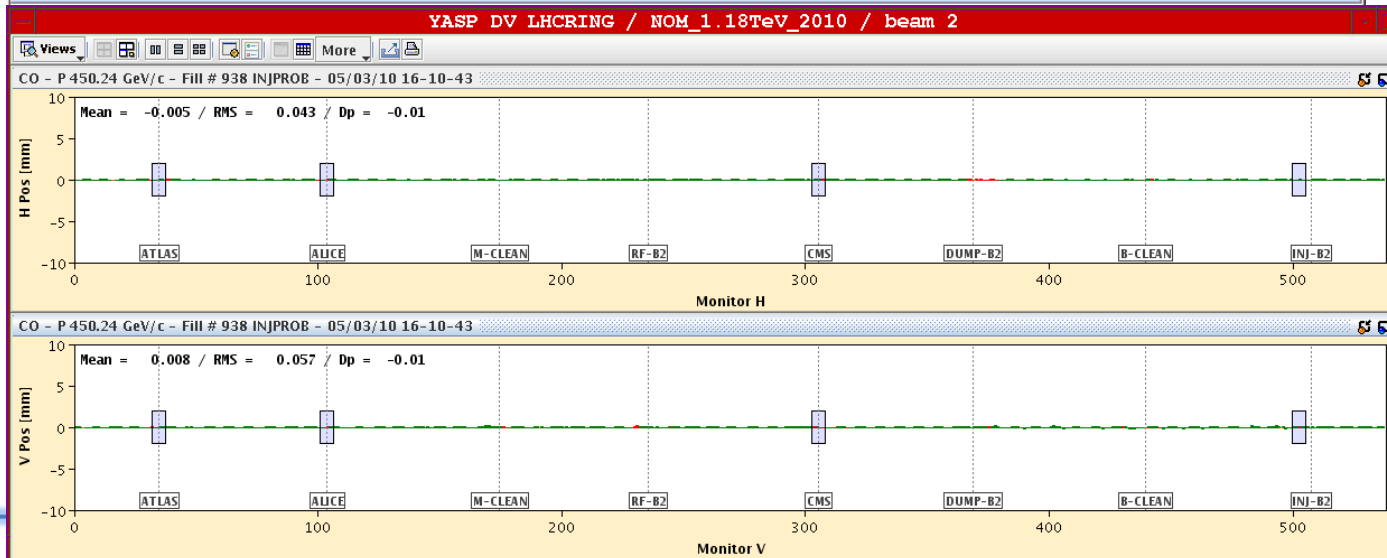
Jorg Wenninger

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Closed the bump of LHCb dipole to 50 μm with 2 kicks:
18 μrad on RBXWSH.R8/KICK and 4 μrad on RBXWSH.L8/KICK



Jorg Wenninger
Massimo Giovannozzi



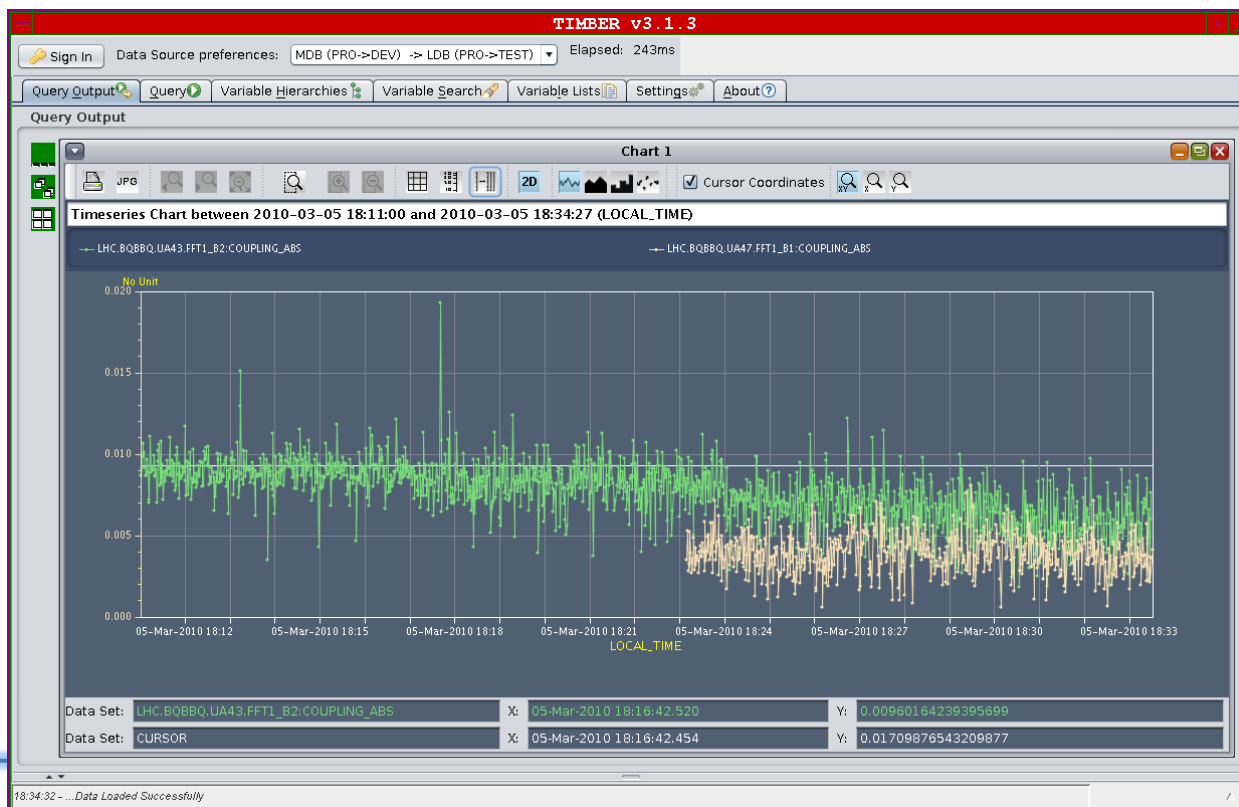
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- CMS solenoid orbit non closure: very small. Do not require corrections
- CMS solenoid induced-coupling : *Massimo Giovannozzi*

Correction of CMS coupling.

Beam 1: no need to correct (probably the CMS-induced coupling compensates what is generated by other sources). C- about 0.003

Beam 2: correction with knob COMP_SOLENOID_CMS_B2 (set to 1.4). C- about 0.006.

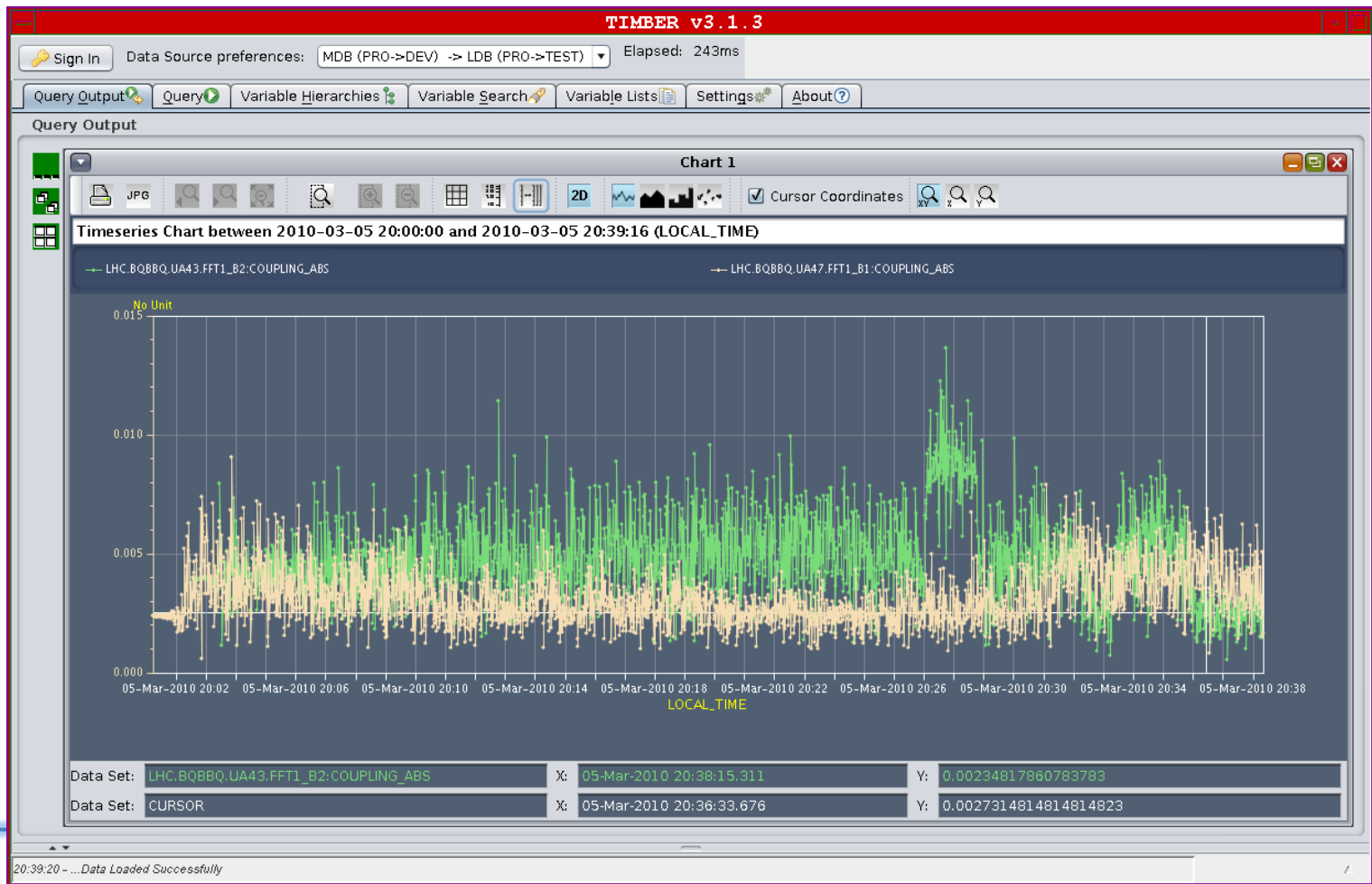


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Global coupling correction for beam 2:

Massimo Giovannozzi

C- about 0.003 after having used the knob LHCBEAM2/CMINUS_RE.IP1 set to -0.006.

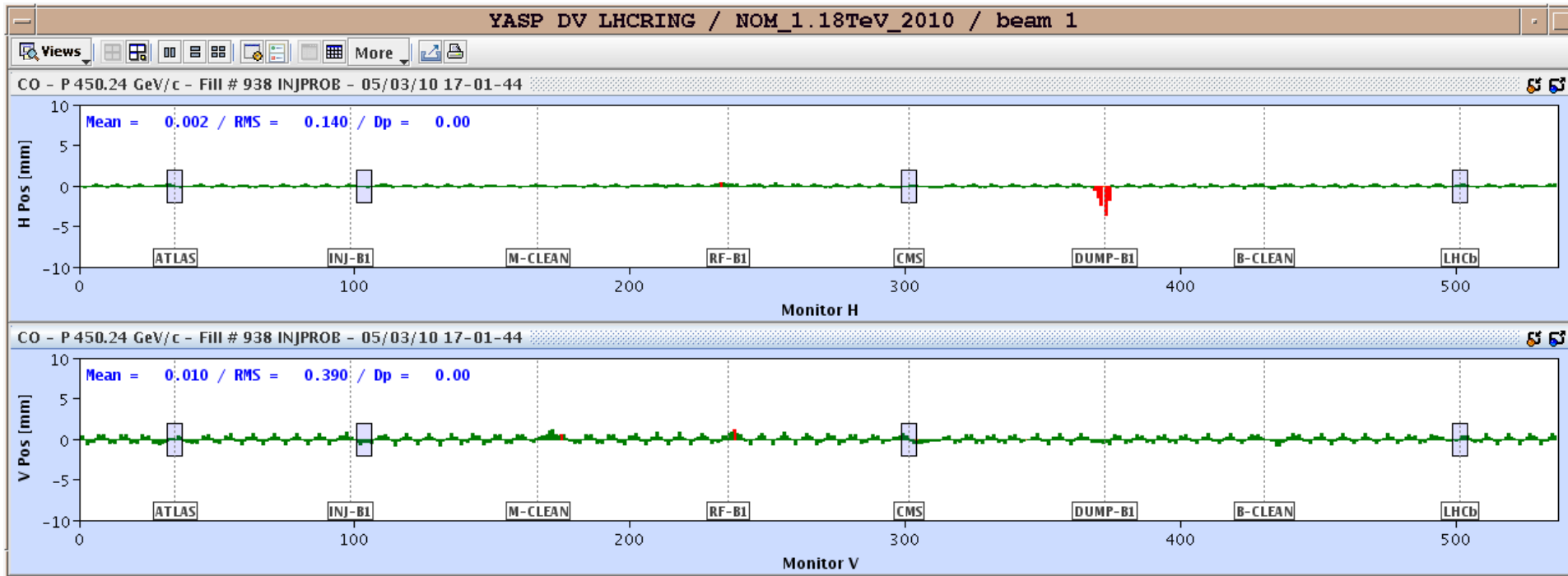


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ALICE dipole : Final residual non-closure after ALICE dipole + correction is 0.17 mm for each beam.
Jorg Wenninger

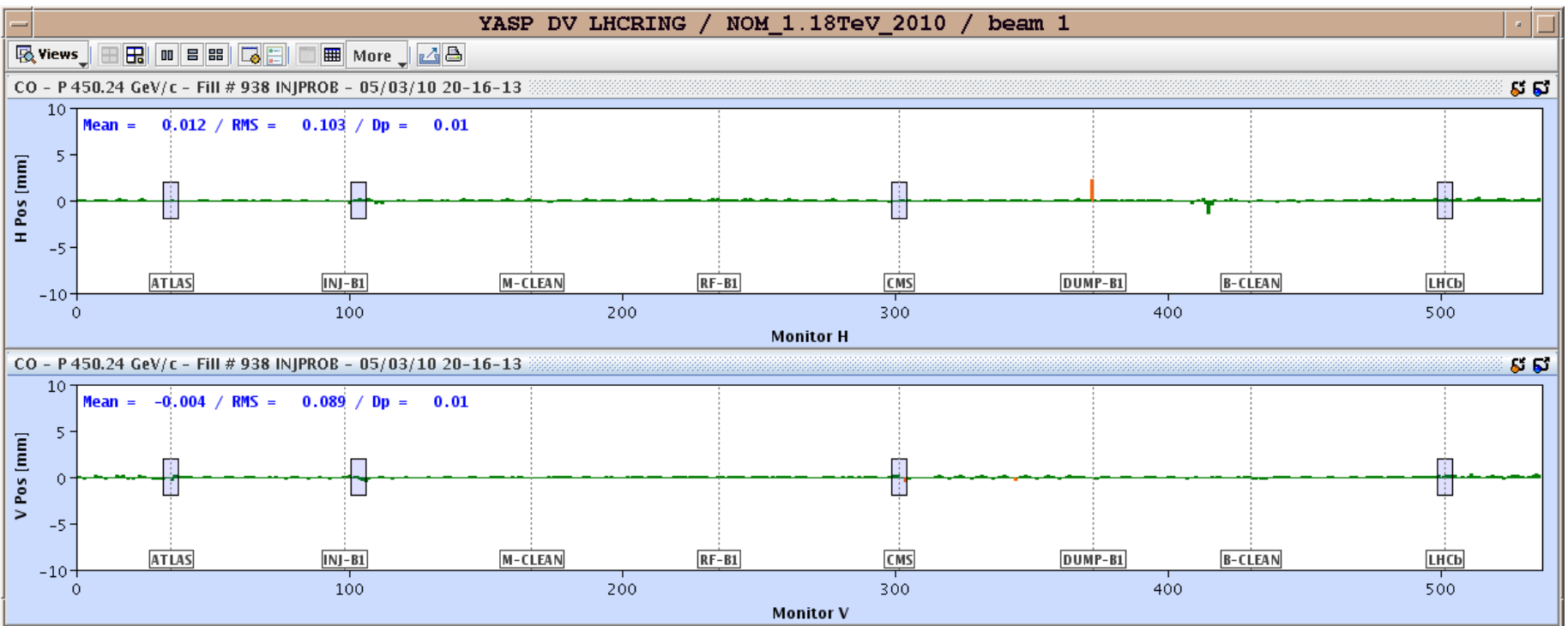
Correction trims: RBXWTV.R2/KICK 7 urad and RBWMDV.L2/KICK 14 urad

Non-closure before correction 0.39/0.44 mm for beam1/2 - about a factor 2 better than 2009.



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ALICE solenoid : Non-closure in rms: B1 H: 0.24 - V: 0.22 ; B2 H: 0.15 - V: 0.23
Corrected to 0.1 mm rms in both planes, both beams



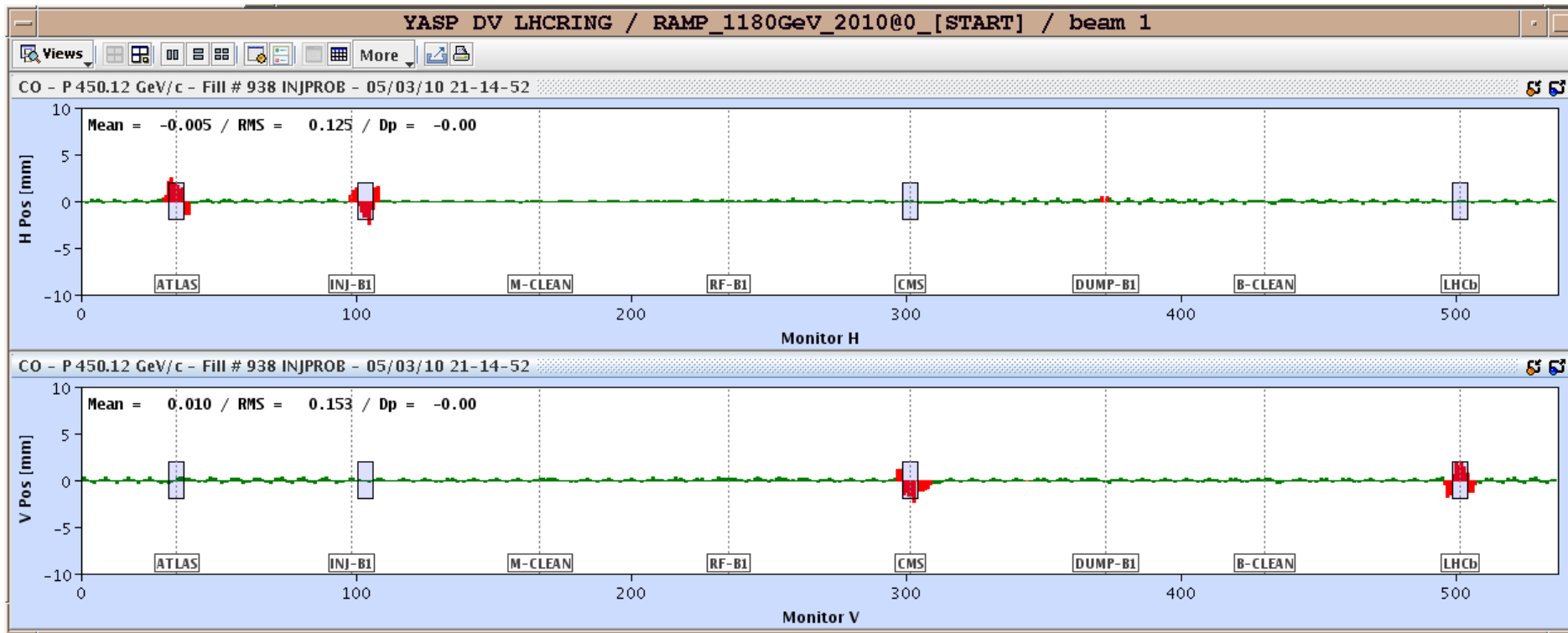
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- Separation bumps - knobs provided by Werner Herr - Stefano Redaelli - Gabriel Mueller -

Separation bumps switched on in all IPs

Beam1 : Non-closure compared to the case without separation bump is

H:0.12 - V:0.15





Saturday 06/03/2010

03:00 - 03:30 - **Luminosity scan knobs tested** - *Simon White* - *Glen Vanbavinckhove* - The bumps closure: 60 to 80 (IP5) micron.

Preparing for pre-cycling : When executing the 600 A U_RES= 0, the task failed for S45. 4 usual circuits with problems: RQT12.L5B1/B2 & RQT11.L5B1/B2

04:30 :
 Lost cryo in S12
 Lost cryo in S78 (regulation valve)
 Started de-icing of filters in Sector 45

Plans for today

Saturday 06/03/2010

- Re-start with beam around ~20:00:
 - Check injection oscillation - correct.
 - Re-check all beam parameters, incl. dispersion, chromaticity
 - Tune should be corrected to 0.28 (H)/0.31 (V)
 - Chromaticity should be corrected to $\sim +2/+2$
 - Coupling to few 0.001
- 21:00 - 03:00 : Injection and beam dump studies - TBC
- 03:00 - 07:00 : Polarity checks

Sunday 07/03/2010 (preliminary)

- 07:00 - 17:00 : Collimator setting-up - BLM
- 17:00 - 01:00 : Aperture measurements
- 01:00 - 07:00 : Damper setting-up

TO NOTE : Cryo intervention on Wednesday 10 March not required
