

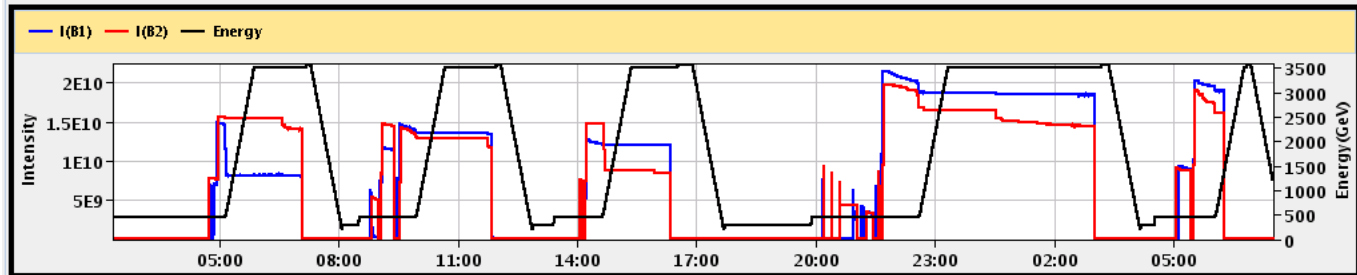
29-30/3/2010

30-Mar-2010 07:30:11 Fill #: 1003 Energy: 1213.4 GeV I(B1): 1.51e+08 I(B2): 7.08e+07

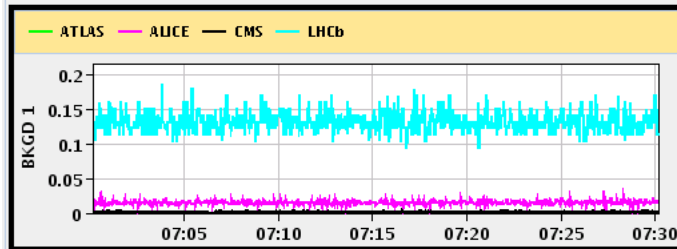
	ATLAS	ALICE	CMS	LHCb
Experiment Status	STANDBY	STANDBY	CALIBRATION	STANDBY
Instantaneous Luminosity	0.000e+00	0.000e+00	0.000e+00	-1.000e+00
BRAN Count Rate	6.544e-03	2.283e-03	1.385e-01	2.868e-01
BKGD 1	0.002	0.016	0.002	0.113
BKGD 2	0.000	0.000	0.000	0.002
BKGD 3	0.000	0.006	0.000	0.035

LHCf **STANDBY** Count(Hz): 0.000 LHCb VELO Position **OUT** Gap: 58.0 mm TOTEM: **STANDBY**

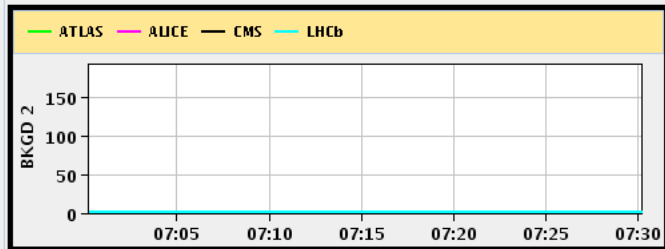
Performance over the last 12 Hrs



Background 1



Background 2



- Ramp to 3.5 TeV
- Simulation of asynchronous beam dump

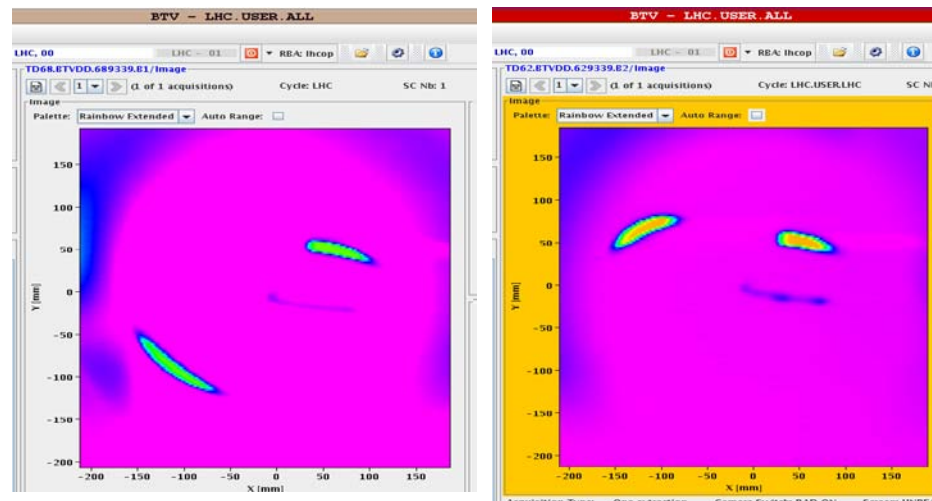
Switch off the RF - De-bunched beam

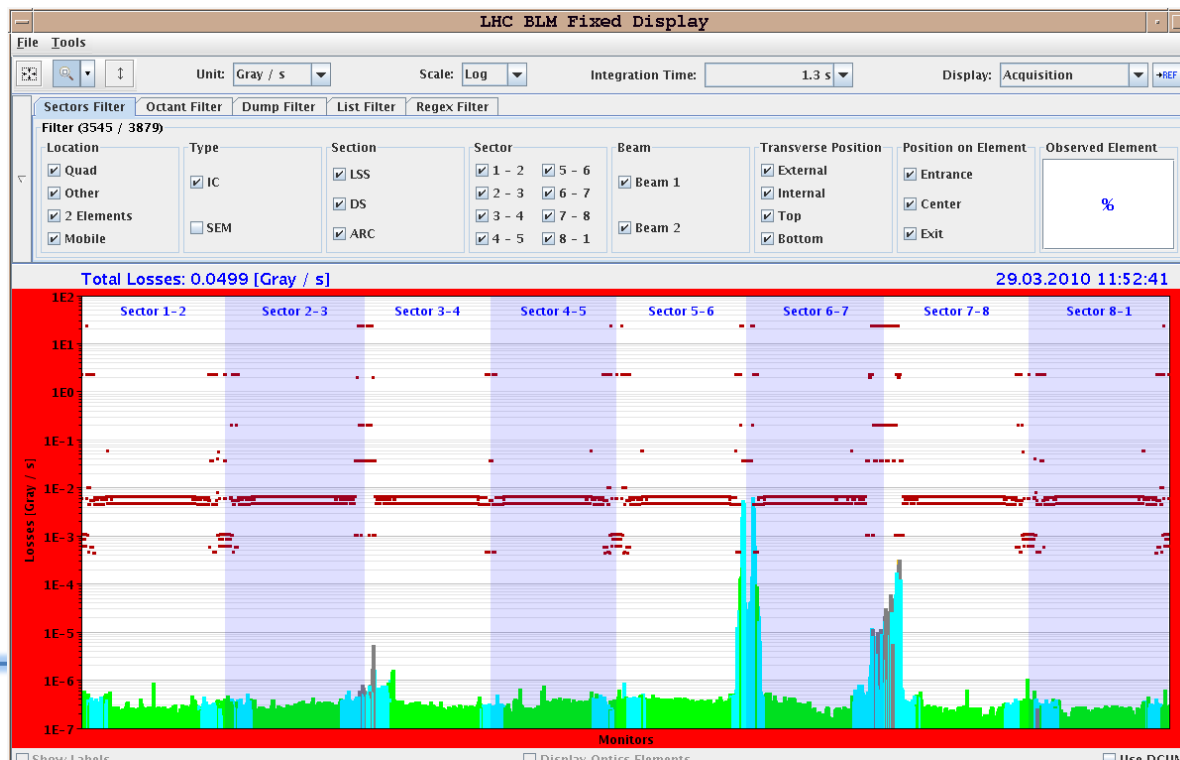
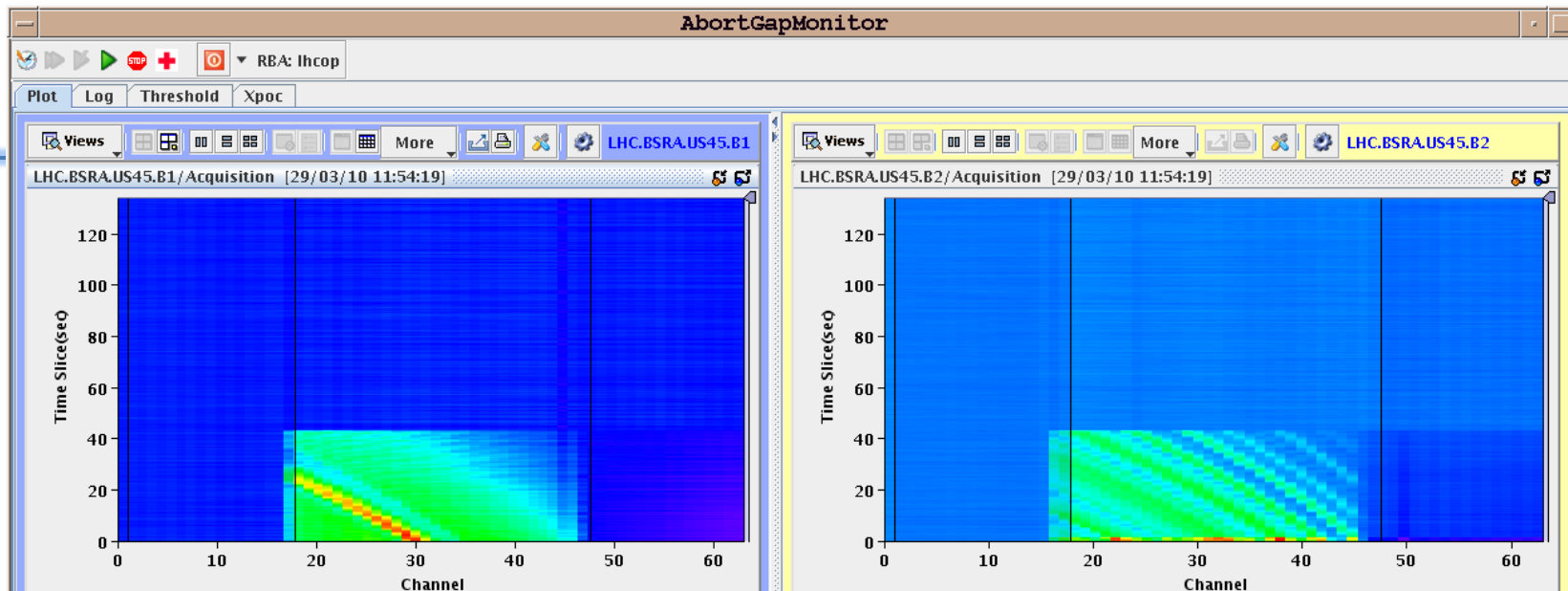
Beam dumped after about 2 minutes (peak of abort gap population).

Losses only on protection devices in P6, and collimators in P7 and P3.

Looks good - more detailed analysis of PM and experiment data to come

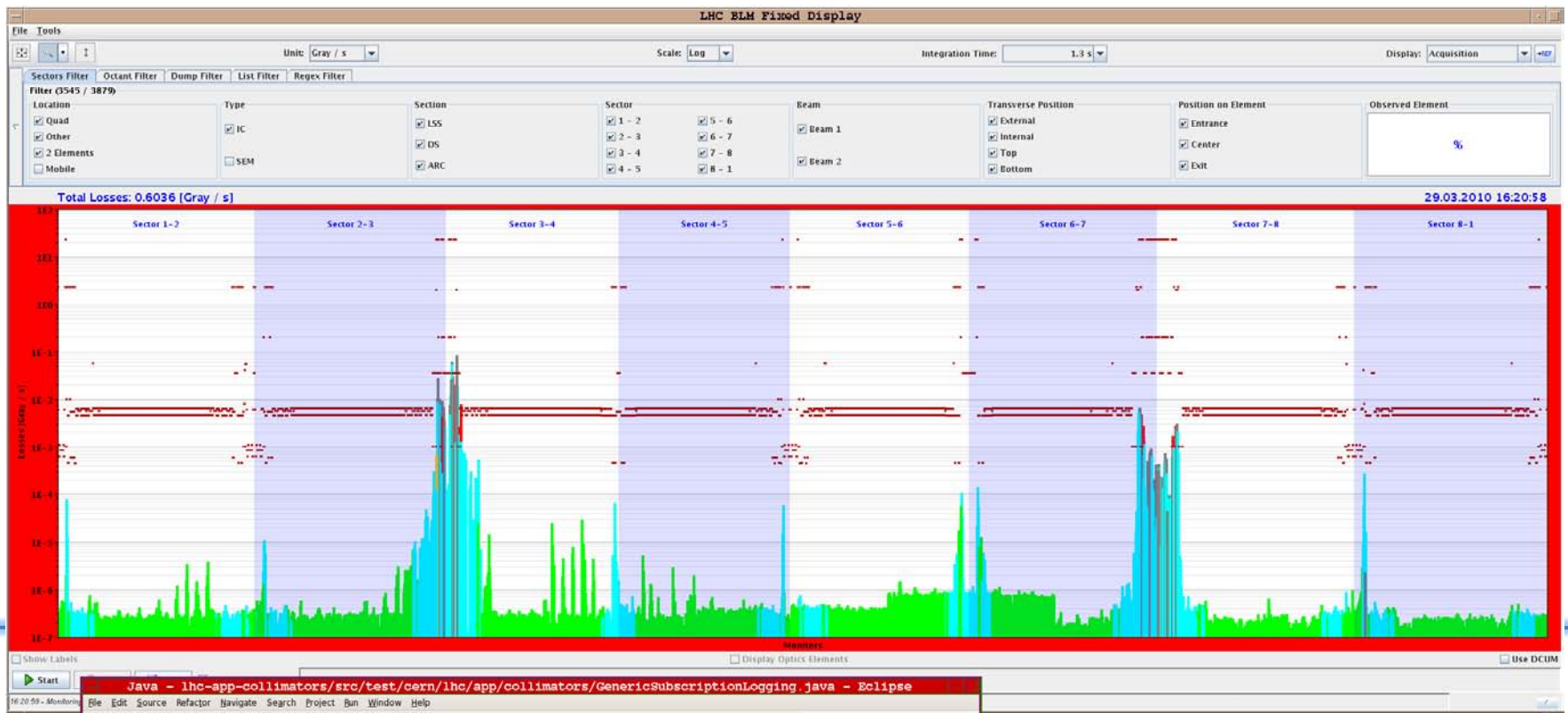
- No losses seen by the experiments





Monday 29/3/2010

- Afternoon (Ramp #2): Continue tests at 3.5 TeV
 - Tests stable beam flag on/off - Done (16:00 - 16:15)
 - Energy off set to verify containment of off-momentum losses in IR3 (16:20 - change RF by +600 Hz)





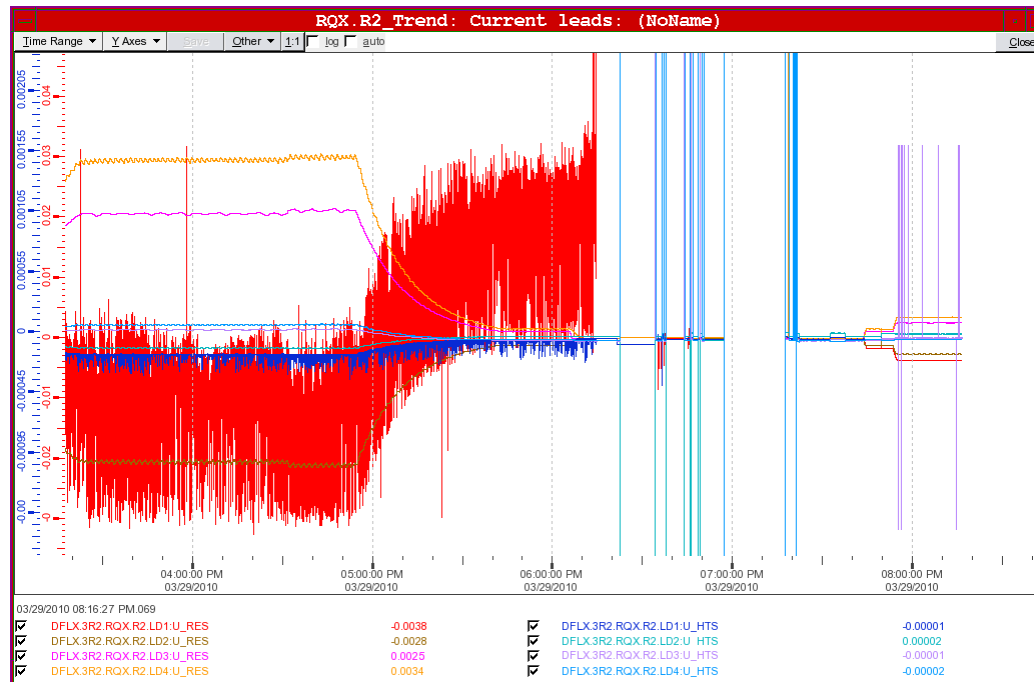
Monday 29/3/2010

- Some leakage seen in the experiments
 - Momentum collimation is safe for the machine. Safely below damage limit of tertiary collimators.

 - ALICE: no losses seen
 - ATLAS:
 - The biggest losses are in the ZDC (TAN), i.e. closest to the TCT
 - BCM would have fired an abort (at nominal settings); but the losses are much smaller than what was observed last Friday.
 - CMS:
 - There were losses: these were >100 times normal background rates. There was no unambiguous signal on the Beam Conditions monitor, so we can set an upper limit of the losses being $<1\%$ of the ABORT level.
 - LHCb: no losses seen
-

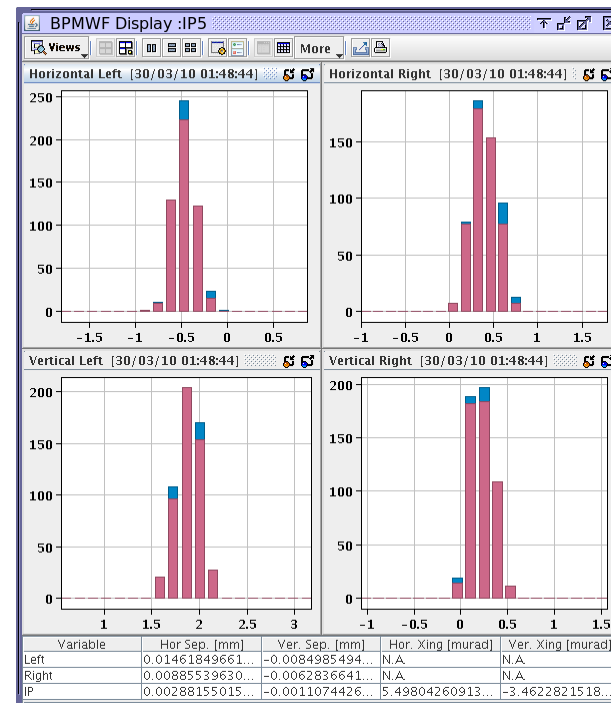
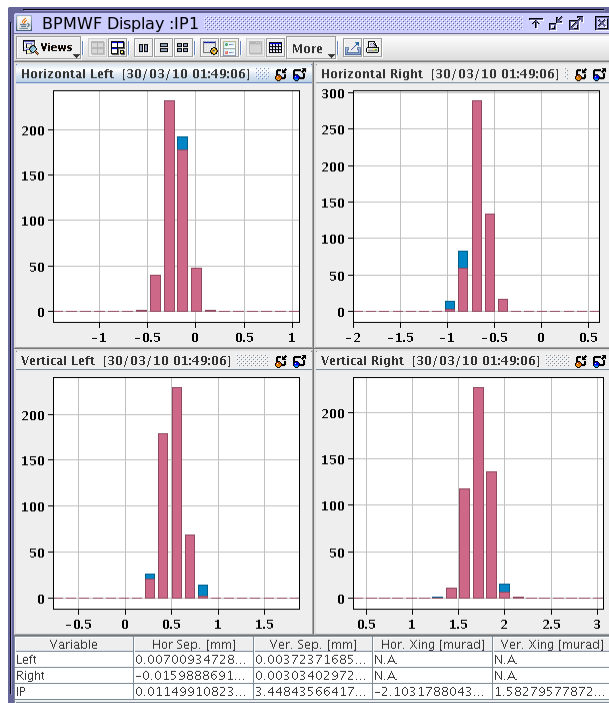
29/3/2010

- 18:00 - 20:00 : Access in UA27 to fix problem with voltage measurement on current lead for RQX.R2 - Bad connector found and repaired



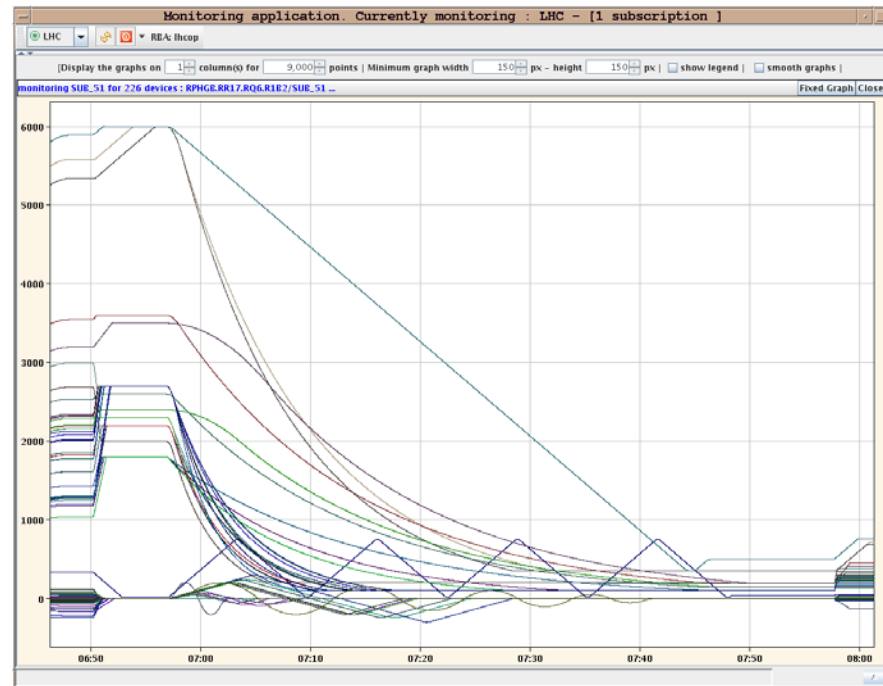
- 21:00 - 22:35 : Injection and beam adjustment
- 22:35 - 23:25 : Ramping at 3.5 TeV (Ramp #3)- Non colliding buckets **B1 (1, 17851), B2 (1001, 9911) - 9e9 per bunch - Everything unmasked**

- 01:10 **STABLE BEAMS**: non-colliding pattern
- 01:10 - 03:00 : Beam left at 3.5 TeV
- get feedbacks from experiments from beam gas:
 - LHCb IP8: B1 is lower than B2 by 280 μm : trimmed V +140 μm B1 and -140 μm B2
 - CMS: V is $\sim 100\mu\text{m}$ offset (B2 is lower than B1) but difference is at the 1 sigma level



30/3/2010

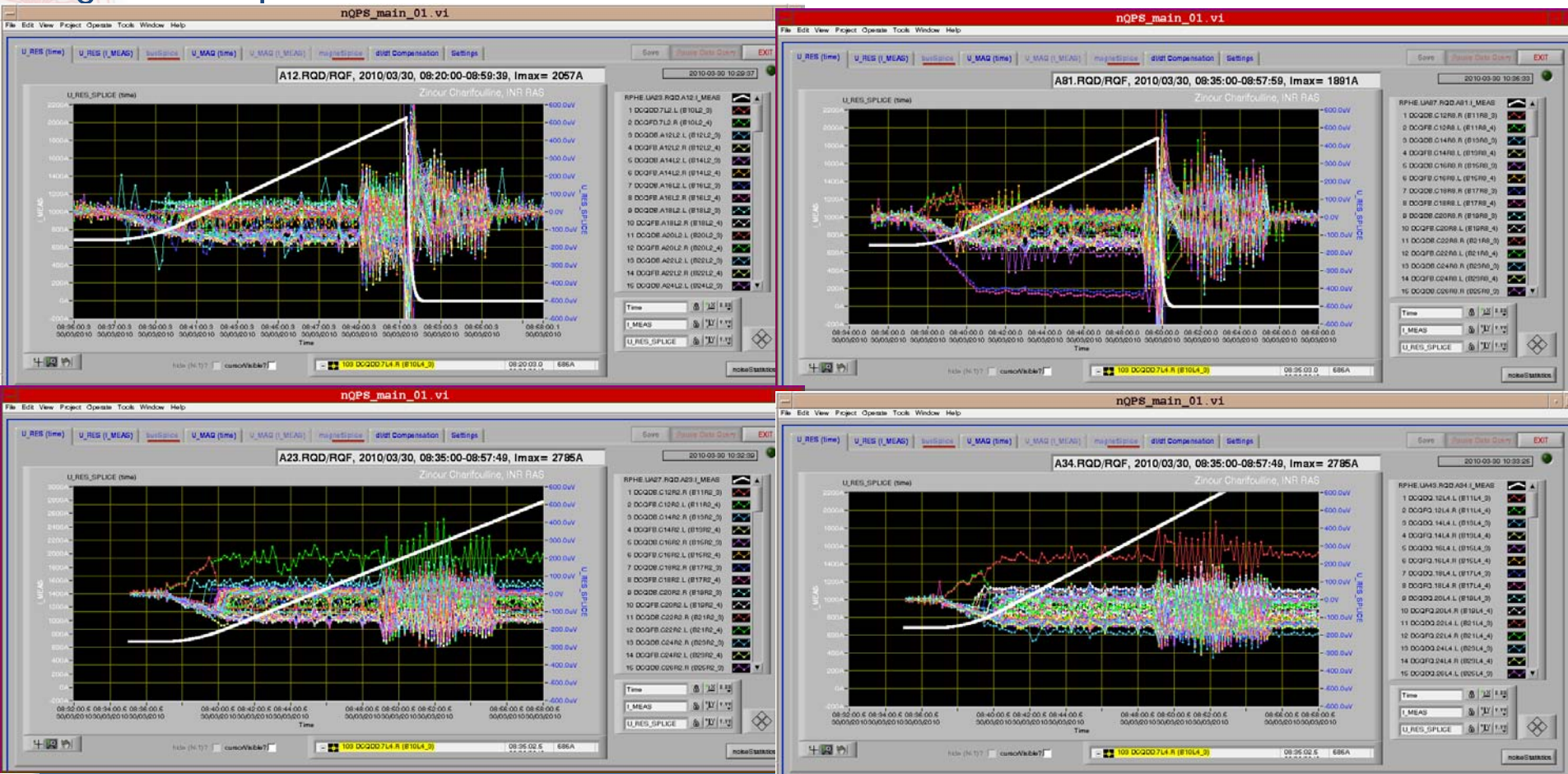
- ~05:00: start filling - **B1 (1, 17851), B2 (1, 8911)**
- 06:02 started ramp
- 06:17 RQT12.R4B1 tripped (power converter) - beams lost
- Pre-cycled



- Injection started at 08:00
- Ramp starting

30/3/2010

~Ramp started at 08:37 → Oscillation observed on the new QPS system starting at 08:49 in all sectors but reducing in amplitude the further we get from point 1



30/3/2010

~at the same time trip of the QF circuit in the SPS while the QD circuit continued to pulse → transformer effect in this case SPS is the primary and LHC is the secondary

#	Date	Time	Priority	System Name	Identifier	Problem Description
17/03	08:54:34	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
17/03	08:54:34	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
17/03	08:57:50	3	MAIN_POWER_CONVERTER	SMQF	[A] Fast Stop	
17/03	09:00:42	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
17/03	09:00:42	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
17/03	09:00:46	3	MAIN_POWER_CONVERTER	SMQF	[A] Fast Stop	
22/03	09:05:48	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
22/03	09:05:48	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
22/03	09:05:48	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
22/03	09:05:51	3	MAIN_POWER_CONVERTER	SMQF	[A] Fast Stop	
22/03	09:08:50	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
22/03	09:08:54	3	MAIN_POWER_CONVERTER	SMQF	[A] Fast Stop	
22/03	09:52:56	3	MAIN_POWER_PLC	SMQF	[A] Communication lost	
22/03	09:52:56	3	MAIN_POWER_PLC	SMQF	[A] Communication lost	
22/03	09:52:56	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
22/03	09:52:56	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
22/03	10:00:13	3	MAIN_POWER_PLC	SMQF	[A] Communication lost	
22/03	10:00:13	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
22/03	10:00:13	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
22/03	14:47:11	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
22/03	14:56:47	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
22/03	21:53:56	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
22/03	21:55:22	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
22/03	22:01:26	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
22/03	22:02:36	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
23/03	01:52:58	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
23/03	02:44:24	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
23/03	09:14:26	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
23/03	09:14:26	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
23/03	09:25:47	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
23/03	09:25:47	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
23/03	09:25:47	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
25/03	19:26:59	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
25/03	19:28:54	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
27/03	19:19:02	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
27/03	19:22:03	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
28/03	20:00:41	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
28/03	20:03:44	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
29/03	14:23:01	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
29/03	14:26:03	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
30/03	08:49:00	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	
30/03	08:54:05	3	MAIN_POWER_CONVERTER	SMQF	[A] Fault	

active: 37 mask: 8 inhibit: 5 search: 100

Config read-only





Tuesday 30/3/2010

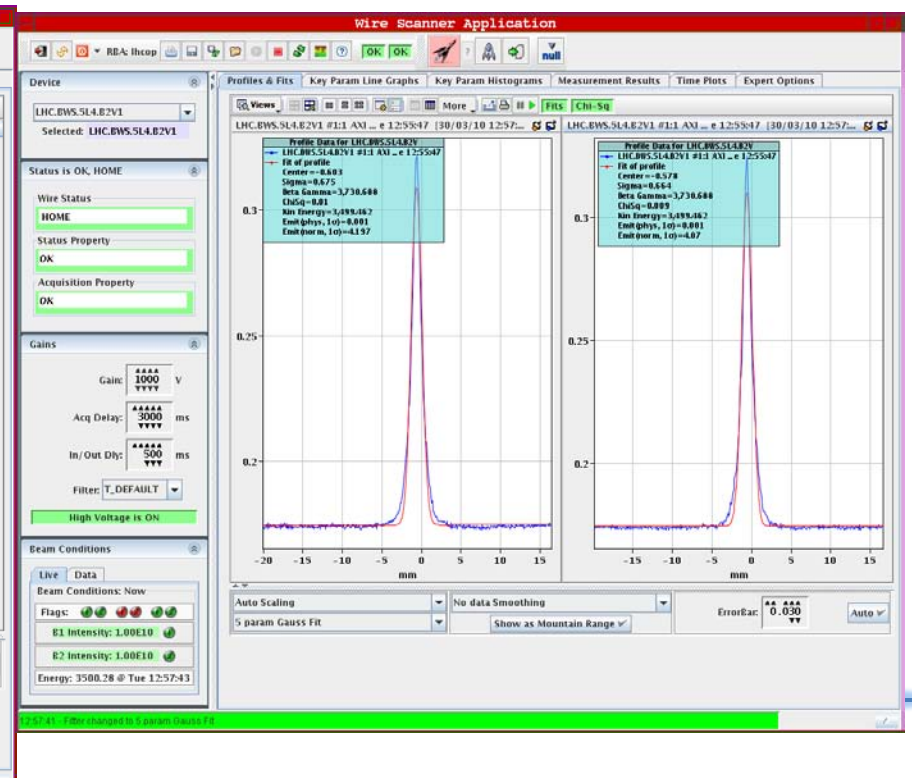
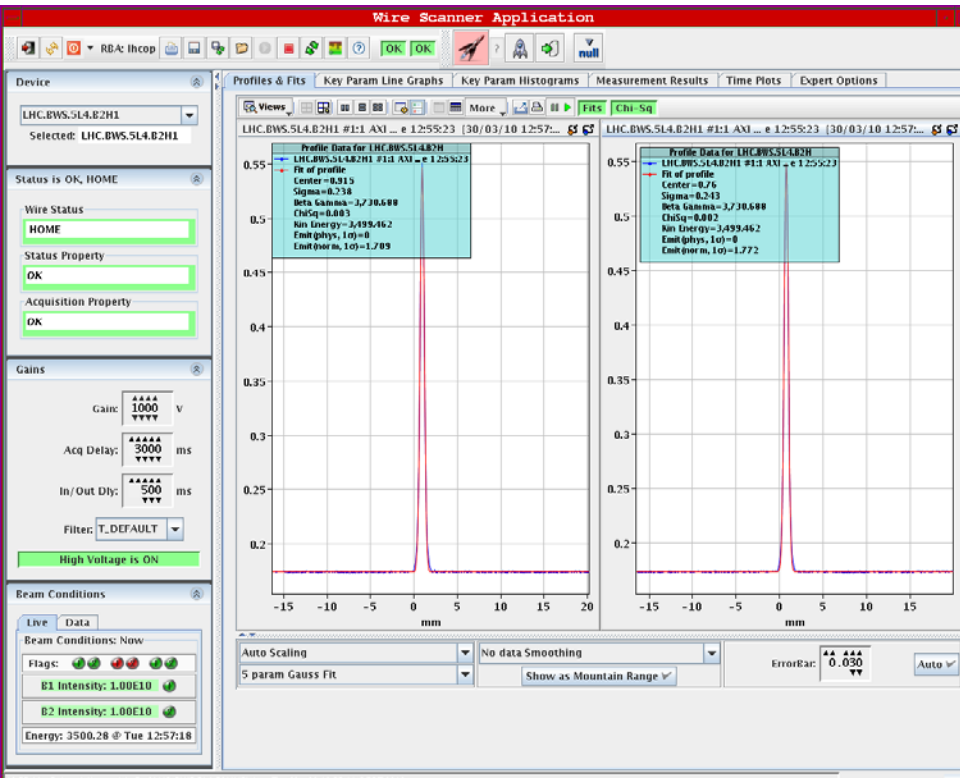
- 11:15 : Recover conditions at 450 GeV
 - Enorm : B1 : H & V ~ 1um - B2: H 1.9 um , V =3.3 um -
 - 11:52 : Ramping again
 - 12:38 : At 3.5 TeV
 - Corrected the H and V orbits only. No tune changes done (B2 coupling rather high).
 - 13:22: Declared stable beams
 - 16:30 : Beam dumped (energy tracking error on switch generator # K)
-

The screenshot displays the 'Wire Scanner Application' interface. On the left, a sidebar contains several sections: 'Device' (LHC.BWS.5R4.B1V2), 'Status' (OK, HOME), 'Wire Status' (HOME), 'Status Property' (OK), 'Acquisition Property' (OK), 'Gains' (Gain: 1000 V, Acq Delay: 3000 ms, In/Out Dly: 500 ms, Filter: T_DEFAULT, High Voltage is ON), and 'Beam Conditions' (Flags, B1 Intensity: 1.00E10, B2 Intensity: 1.00E10, Energy: 3500.40 @ Tue 12:59:02).

The main area features two side-by-side plots of 'Profile Data for LHC.BWS.5R4.B1V2'. Both plots show a sharp peak at 0 mm. The left plot is for a measurement at 12:56:26 with fit parameters: Center = -0.439, Sigma = 0.448, Beta Gamma = 3,730.56, ChiSq = 0.008, Kin Energy = 3,499.342, Emit (phys, 1σ) = 0.001, and Emit (norm, 1σ) = 2.598. The right plot is for a measurement at 12:58:26 with fit parameters: Center = -0.391, Sigma = 0.437, Beta Gamma = 3,730.56, ChiSq = 0.009, Kin Energy = 3,499.342, Emit (phys, 1σ) = 0.001, and Emit (norm, 1σ) = 2.47.

At the bottom, there are controls for 'Auto Scaling' (5 param Gauss Fit), 'No data Smoothing', 'Show as Mountain Range', and an 'ErrorBar' set to 0.030.

12:59:01 - Subscription update 3 of LHC.BWS.5R4.B1V2/Status, Tue Mar 30 12:59:01 CEST 2010



30/3/2010

OP Vistars - Mozilla Firefox

http://op-webtools.web.cern.ch/op-webtools/vistar/vistars.php?usr=LHC1

OP Vistars

LHC1

LHC Page1 Fill: 1005 E: 3500 GeV 30-03-2010 13:24:16

PROTON PHYSICS: STABLE BEAMS

Energy: 3500 GeV I(B1): 1.88e+10 I(B2): 1.68e+10

FBCT Intensity Updated: 13:24:16

Time	B1 Intensity	B2 Intensity
11:30	~1.0e+10	~0.8e+10
11:35	~1.0e+10	~1.0e+10
11:40	~1.8e+10	~1.6e+10
11:45	~1.8e+10	~1.6e+10
12:00	~1.8e+10	~1.6e+10
12:15	~1.8e+10	~1.6e+10
12:30	~1.8e+10	~1.6e+10
12:45	~1.8e+10	~1.6e+10
13:00	~1.8e+10	~1.6e+10
13:15	~1.8e+10	~1.6e+10

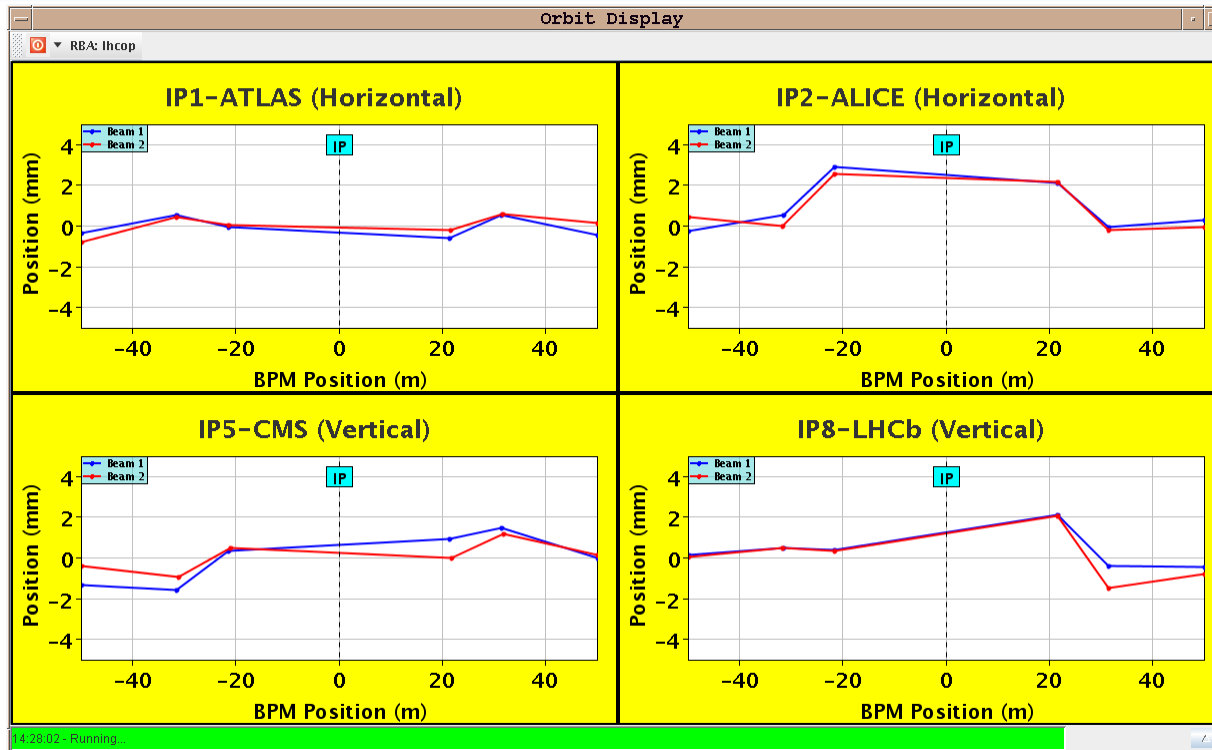
Comments 30-03-2010 13:22:57 : Stable beams!

BIS status and SMP flags	B1	B2
Link Status of Beam Permits	true	true
Global Beam Permit	true	true
Setup Beam	true	true
Beam Presence	true	true
Moveable Devices Allowed In	true	true
Stable Beams	true	true

LHC Operation in CCC : 77600, 70480 PM Status B1: ENABLED PM Status B2: ENABLED

Done

30/3/2010



Separation Display			
ATLAS	ALICE	CMS	LHCb
-0.234	0.147	0.377	0.076

30/3/2010

