



Wednesday 21/4/2010

Morning:

- Injecting again beam 1 and beam 2, correcting as required.
- RF re-phasing done : Now can trim over a range of about +/- 600 deg, without implication of the bucket number
- CO: Pierre Charrue : Restarted the BCT-Proxy on cs-ccr-cmw4. We will now study our log-files to understand what happened yesterday evening (unstable subscriptions affecting Page 1 and logging)

Later: W. Sliwinski : deployed a new BCT Proxy where he fixed a bug in the RDA communication library.

- Inject again both beams for ramp
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- squeeze of all IPs at once:

- From 4 m to 3.5 m : lost RQS.A78B2 circuit, and consequently a large fraction of B2 (left with $5e9$ vs. $2.3e10$). Coupling function problem which appeared with the incorporation from the end-of-ramp actual. Indeed, the function in the trim shows spikes which lead to U_{res} above threshold.

Stefano: trick:

- Coupling knobs trimmed back to their values before incorporation
- K functions reverted to the last values generated by Mike this morning
- Coupling knob manually trimmed to the good delta from the end-of-ramp.

More robust solution prepared and implemented in the evening - to be tested with next squeeze...

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Trim Editor

RBA: lhcop LHC OP BP

Beam Processes

- _NON_MULTIPLEXED_LHC
- CollimatorBP-450GeV_V1@60_[END]
- DISCRETE_LHCRING_INJ_KICKER_V1
- SQUEEZE_3.5TeV_IP1+IP5_IP2+IP8_FULL_V1
- CollimatorBP-450GeV_V1
- CollimatorBP-450GeV_V1@0_[START]
- CollimatorBP-450GeV_V1@1
- CollimatorBP-450GeV_V1@2
- CollimatorInjectionBP_V1
- CollimatorInjectionBP_V1@0_[START]
- CollimatorInjectionBP_V1@10
- DISCRETE_COLL_RECOVERY_V1
- DISCRETE_LHCRING_INJ_KICKER_Clone_V1

Show hidden

Parameter selection - LHCRING

System	Type Groups	Parameters
BEAM DUMP	KNOB	Filter: [?]
BETA-BEATING	K	RPMB.A.RR57.RQS.A56B2/IREF
BETA-STAR	I	RPMB.A.RR57.RQS.R5B1/IREF
BLM	IREF	RPMB.A.RR73.RQS.A67B1/IREF
BLM IQC REF		RPMB.A.RR73.RQS.L7B2/IREF
CHROMATICITY		RPMB.A.RR77.RQS.A78B2/IREF
CHROMATICITY_REF		RPMB.A.RR77.RQS.R7B1/IREF
COLLIMATORS		RPMB.A.UA23.RQS.L2B1/IREF
COUPLING		RPMB.A.UA27.RQS.R2B2/IREF
IP_ANGLE		RPMB.A.UA43.RQS.L4B1/IREF
IP_CROSSING		RPMB.A.UA47.RQS.R4B2/IREF
IP_OFFSET		

Select All Select All Select All Show Field(s)

Setting part: Value Target Correction Trim History Time base: SuperCycle Cycle/Beamprocess Injection

Displayed Function: RPMB.A.RR17.RQS.R1B1/IREF, RPMB.A.RR17.RQS.R1B1/IREF@2010-04-21 10:01:18.412

Legend

- RPMB.A.RR17.RQS.R1B1/IREF
- RPMB.A.RR17.RQS.R1B1/IREF@2010-04-21 10:01:18.412

Trim Abort Trim Cancel Last Trim Apply

Trim Expert Params

Graph Table

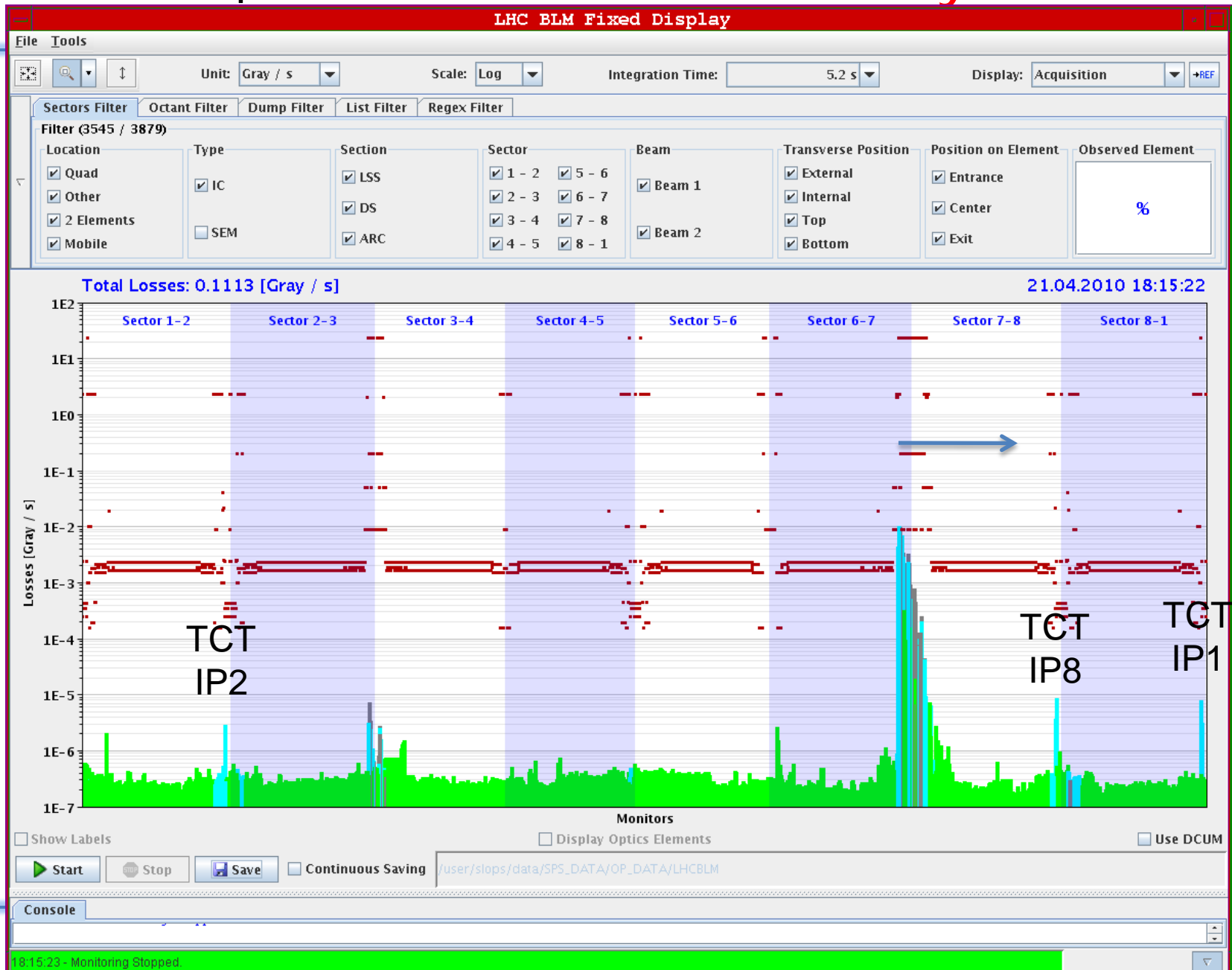


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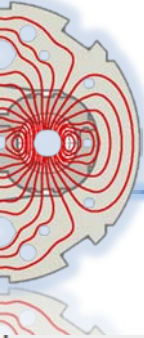
- Qualification of protection devices for 3.5 TeV, squeeze:

- Enough beam at 2m to re-establish golden orbit from last night (collision-optimized)
 - All tertiary collimators aligned with beam
 - Squeezed optics then qualified for horizontal and vertical losses both in beam 1 and beam 2.
 - To note: Still to do before stable beams at 2m beta*:
 - (1) Qualification for off-momentum losses. To be done this night with $1e10$ and large RF frequency trim for both beams at the same time.
 - (2) Qualification of asynchronous beam dump with offset error.
-

Loss Maps Beam 1 Vertical Wednesday 21/4/2010

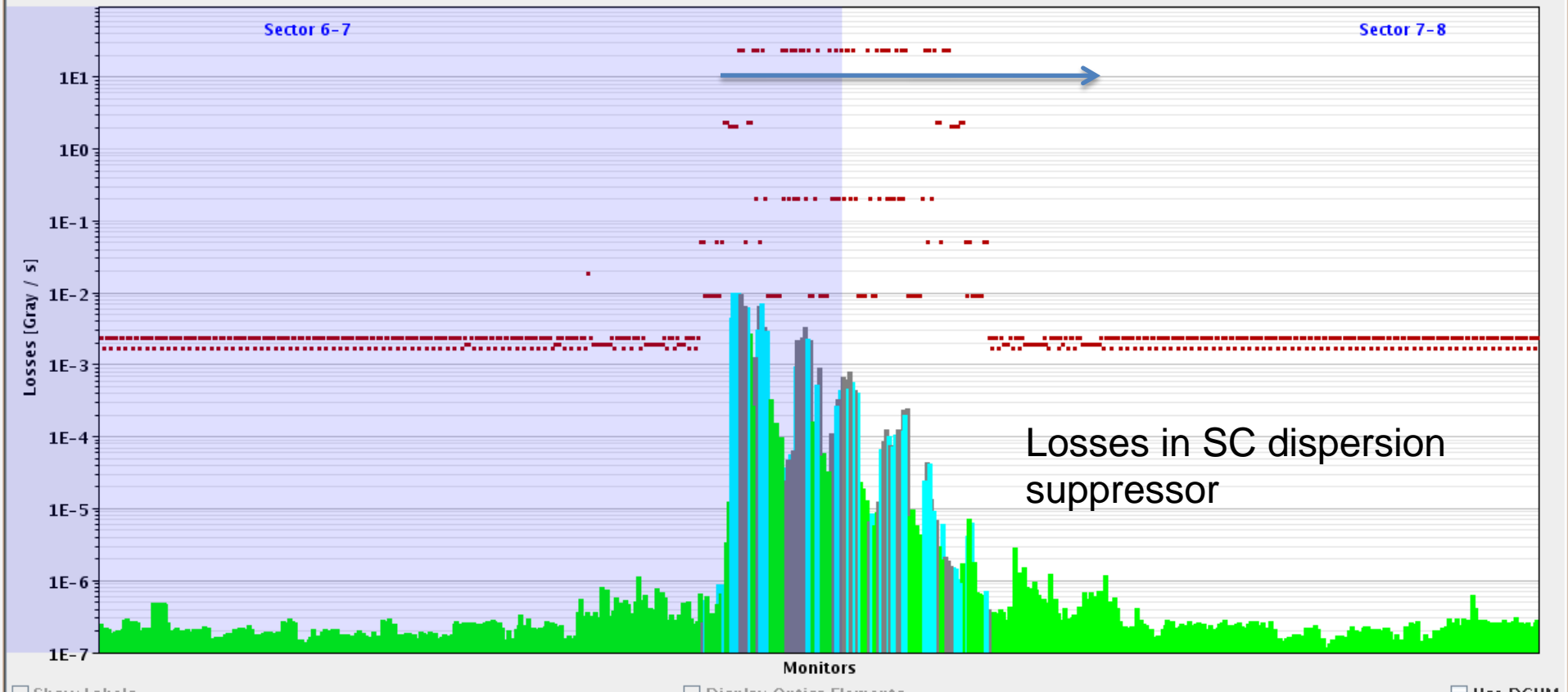


Loss Maps Beam 1 Vertical **Wednesday 21/4/2010**

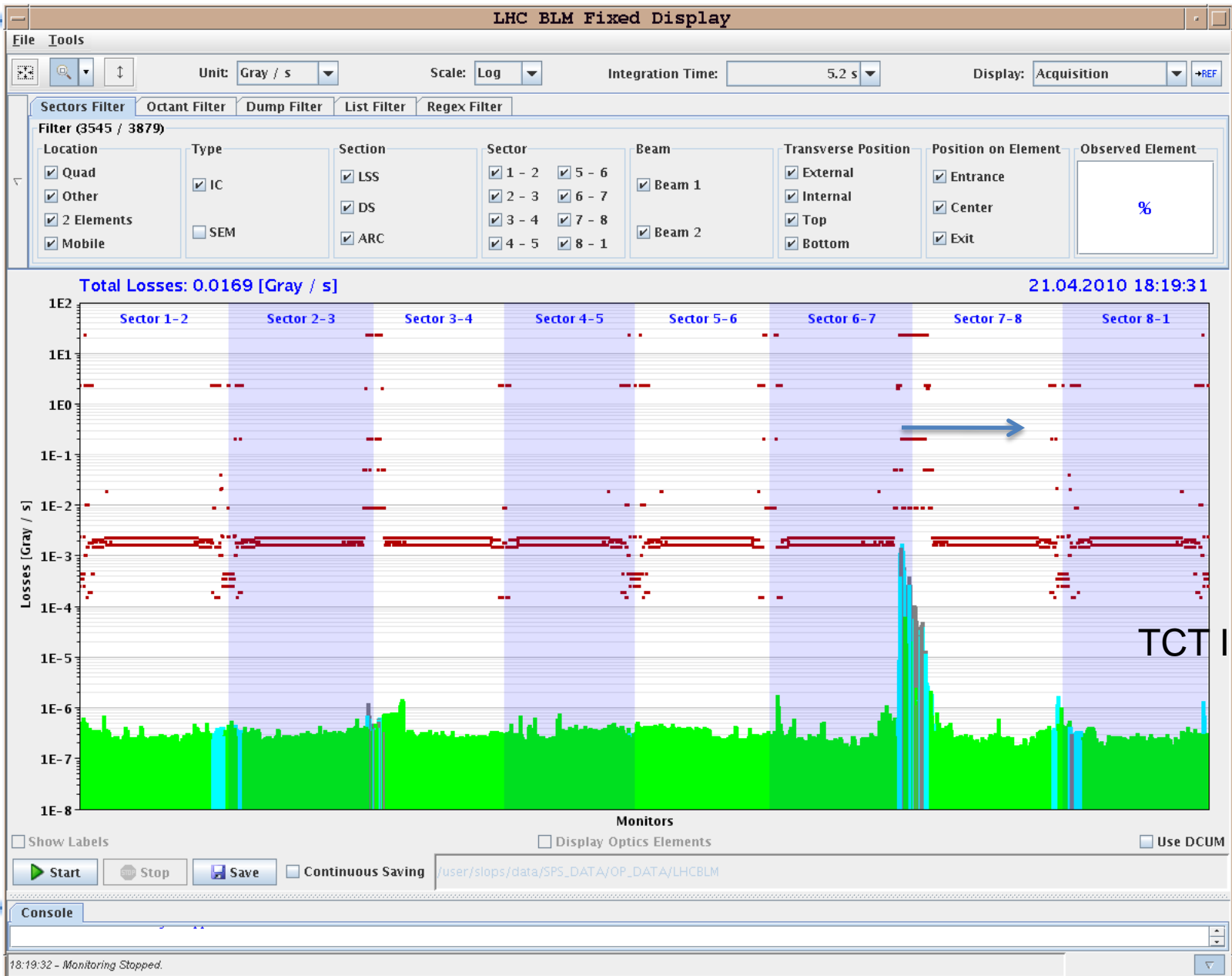


Total Losses: 0.1113 [Gray / s]

21.04.2010 18:15:22

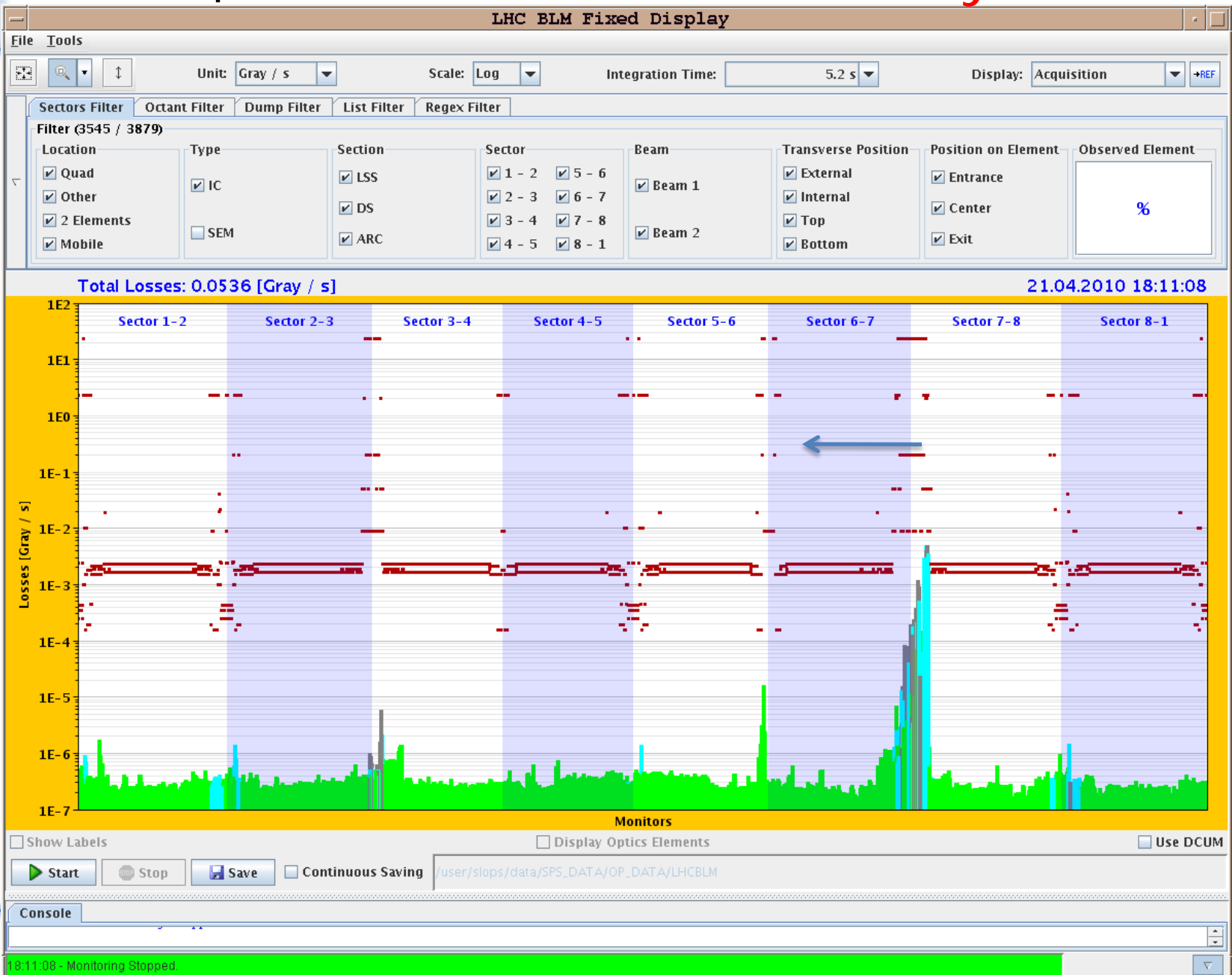


Loss Maps Beam 1 Horizontal Wednesday 21/4/2010

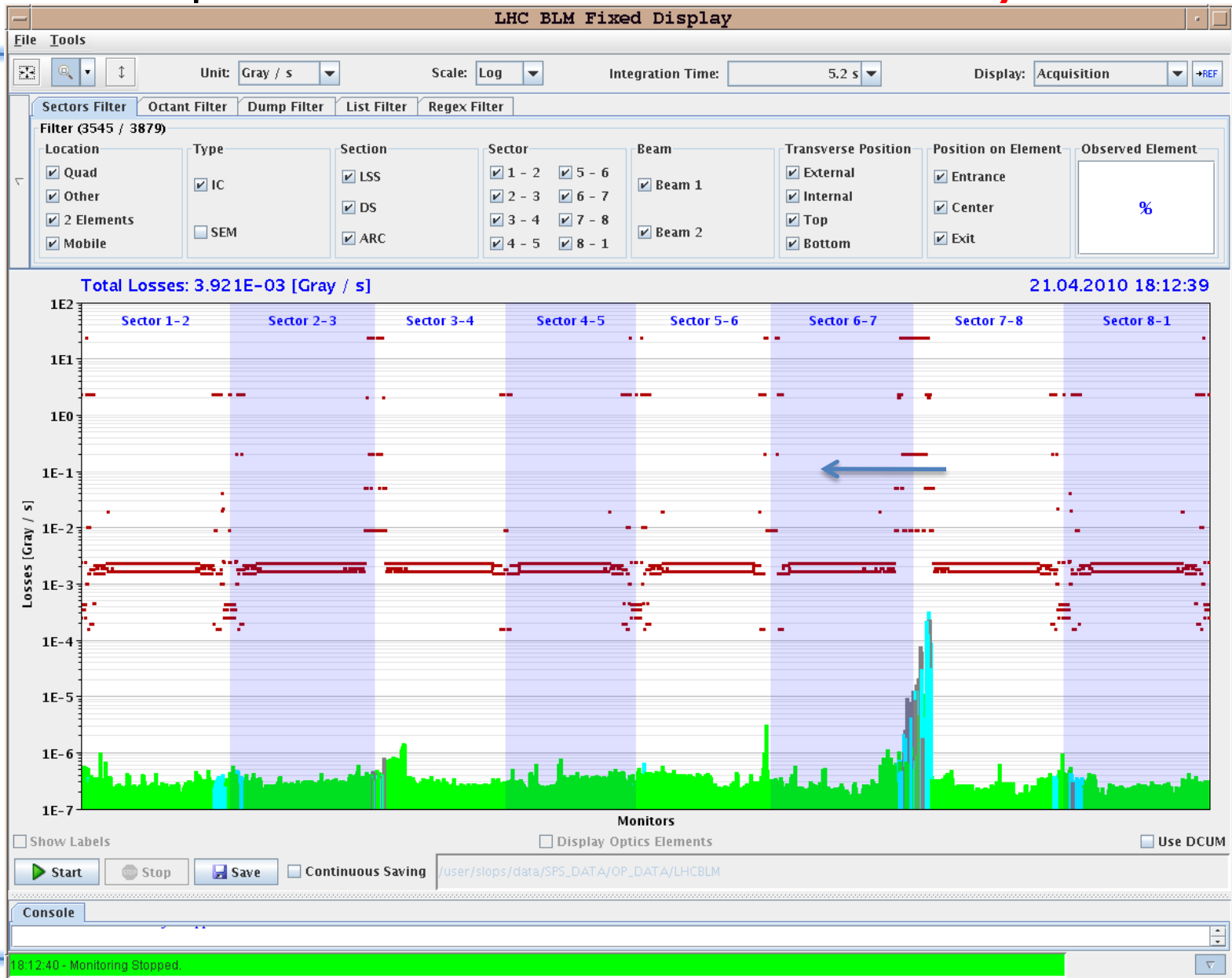


Loss Maps Beam 2 Vertical

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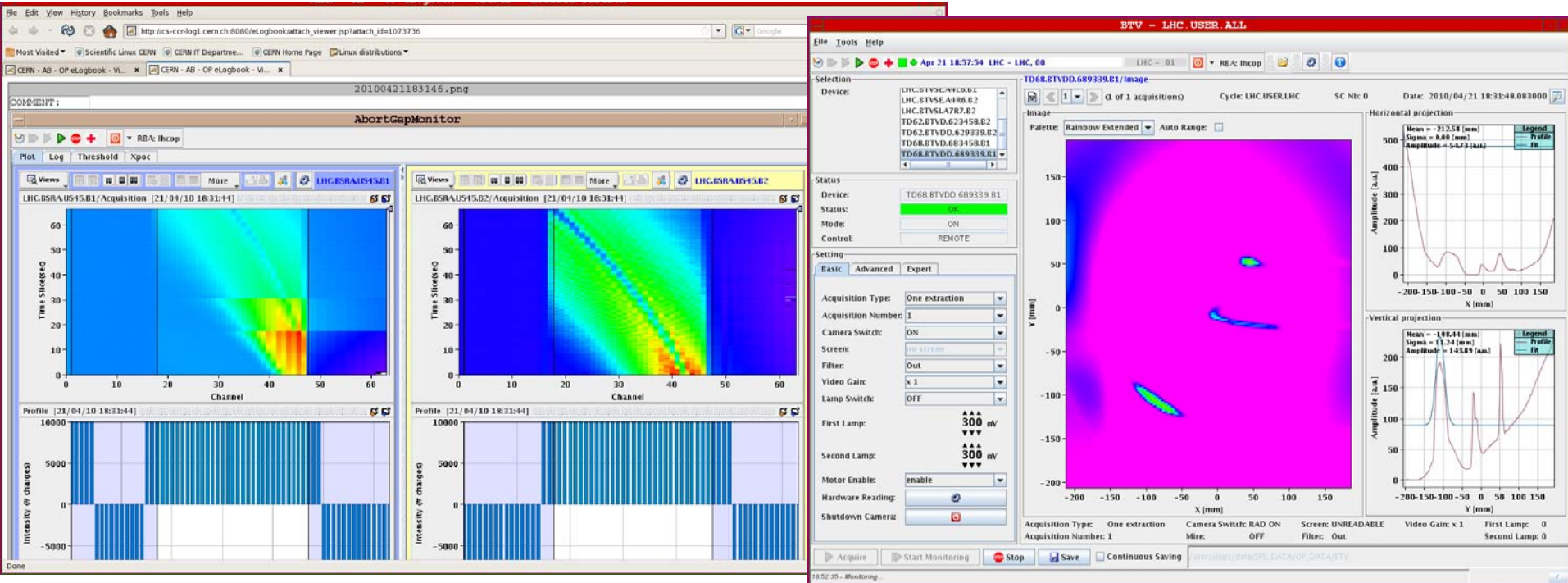
Loss Maps Beam 2 Horizontal Wednesday 21/4/2010



Wednesday 21/4/2010

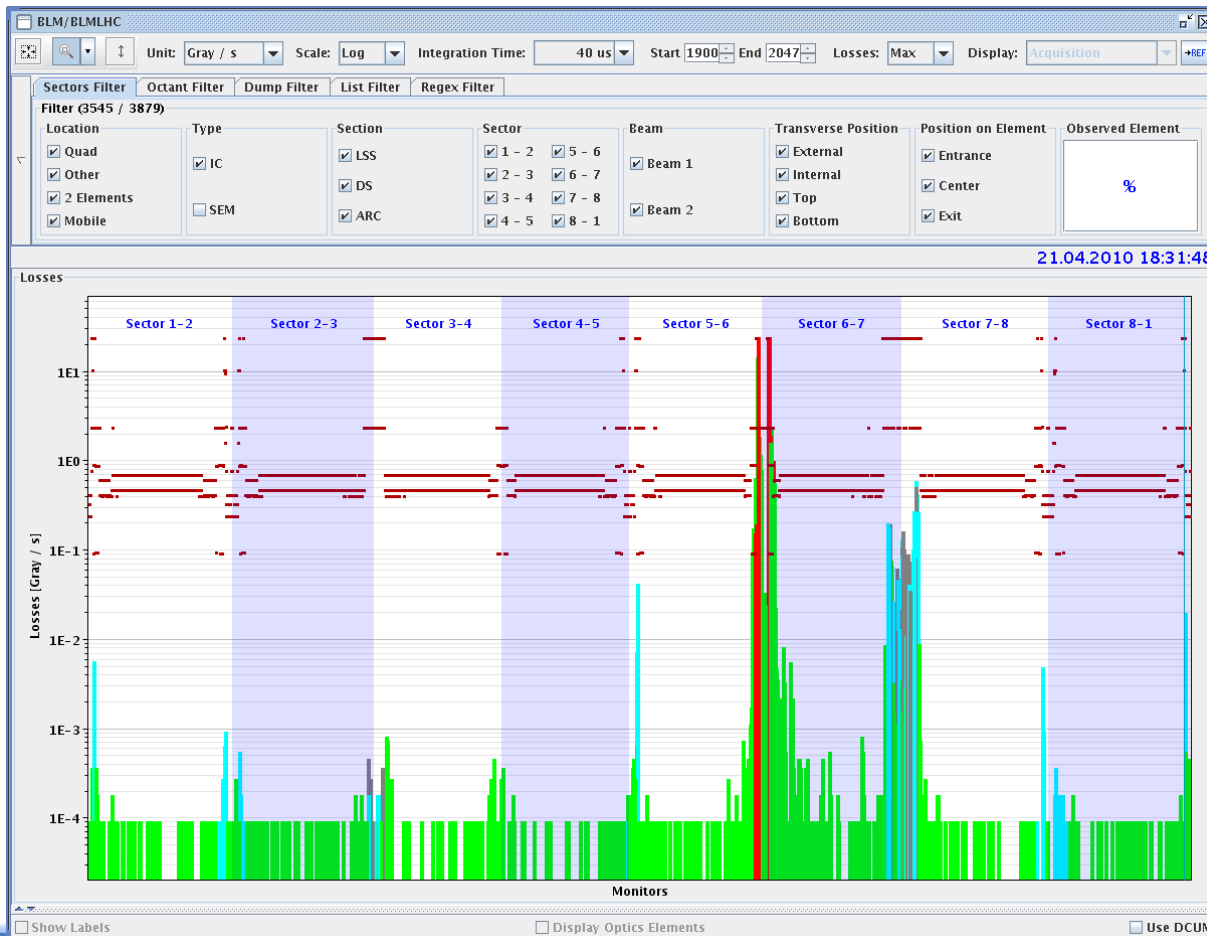
Asynchronous beam dump

- Switching RF off for testing an asynchronous dump
- Dumped beam with operator switch to get PM data. See abort gap nicely filled for both beams (high gain for B2). Intensity about $4e9$ for B1 and below a few $e8$ for B2



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From PM data we see that the losses on the dump protection elements are totally saturated....loss peaks are seen on the TCTs, more for B2 than B1, despite the factor x10 lower intensity.





Thursday 21/4/2010

- Transverse damper studies : cancelled
 - Lost the cold compressor in P2 - Preparing for access - Finally cold compressor could be restarted from distance.
 - Access required to open 2 cryo valves in IP2. Switch off power converters in sectors 12, 23, 34 and RD34s. A relay was found damaged and the signal is now forced; the relay can be changed during the technical stop.
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Upcoming plans

22	TH	9:00	10	Qualification of 3.5 TeV squeezed optics for protection. 1e10/beam.
22	TH	19:00	4	Transverse damper
22	TH	23:00	8	Qualification of 3.5 TeV squeezed optics for protection. 1e10/beam.
23	FR	7:00	2	End of fill ramp down - PS intervention (fire detection system) - no beams.
23	FR	9:00	6	Abort gap cleaning commissioning.
23	FR	15:00	10	2 hrs high intensity injection - Collimation setup @ 450 GeV. 2e11/beam.
23	SA	1:00	8	Fill @ 3.5 TeV squeezed: Stable beams. 3.5e10/beam.
24	SA	9:00	6	Measurement of n1 @ 450 GeV. 3e9/beam.
24	SA	15:00	8	Injection protection setup
24	SA	23:00	8	Fill @ 450 GeV: Stable beams. 2e11/beam.
25	SU	7:00	8	LBDS MPS checks (LBDS & RF team)
25	SU	15:00	8	Abort gap cleaning commissioning.
25	SU	23:00	8	Fill @ 450 GeV: Stable beams. 2e11/beam.