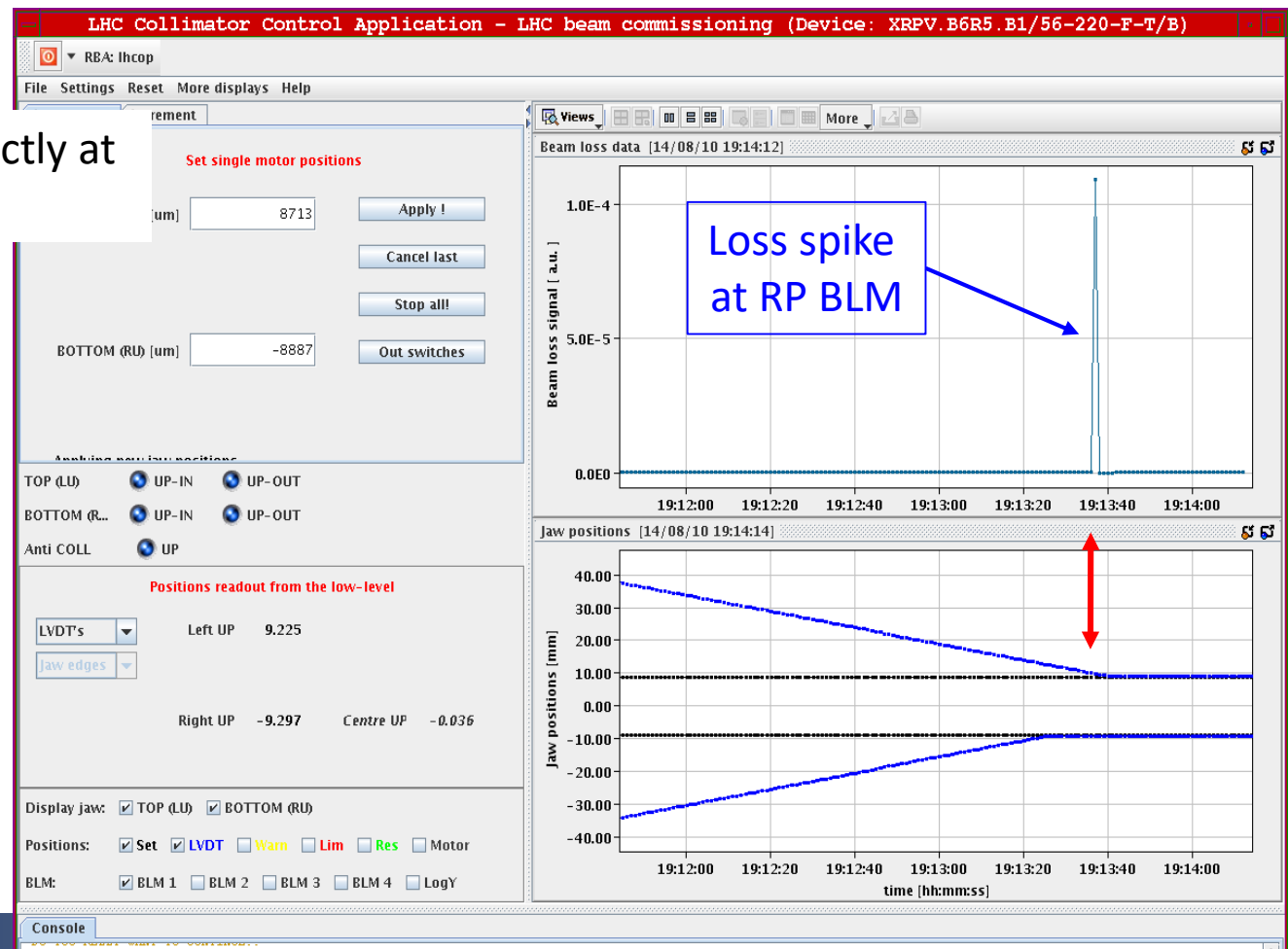
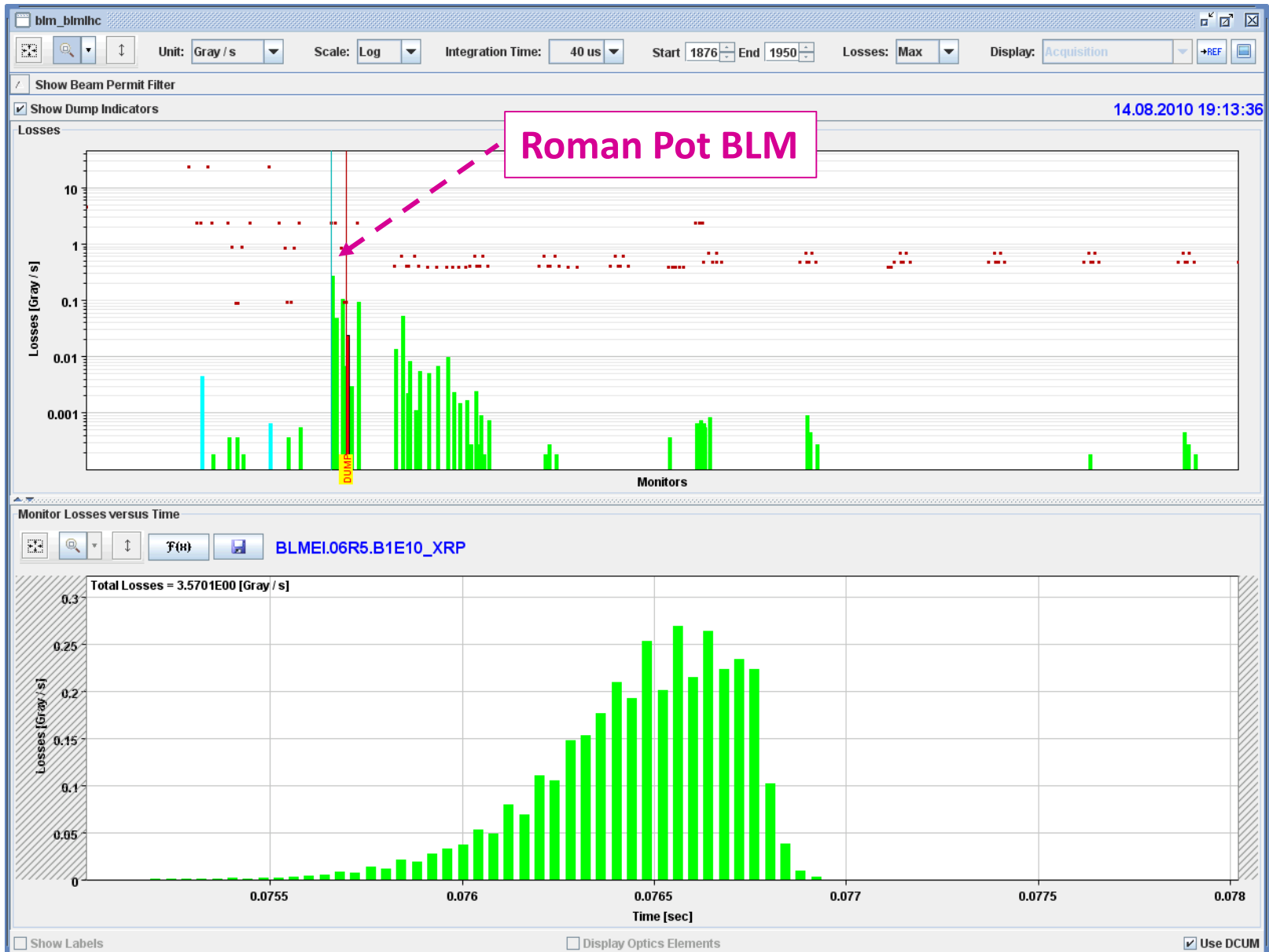


- The BLM dump events in cold regions score is now at 7.
- Event No. 5 came synchronously with a vertical roman pot movement (on B1).

Loss peak/location is exactly at Location of the RP.

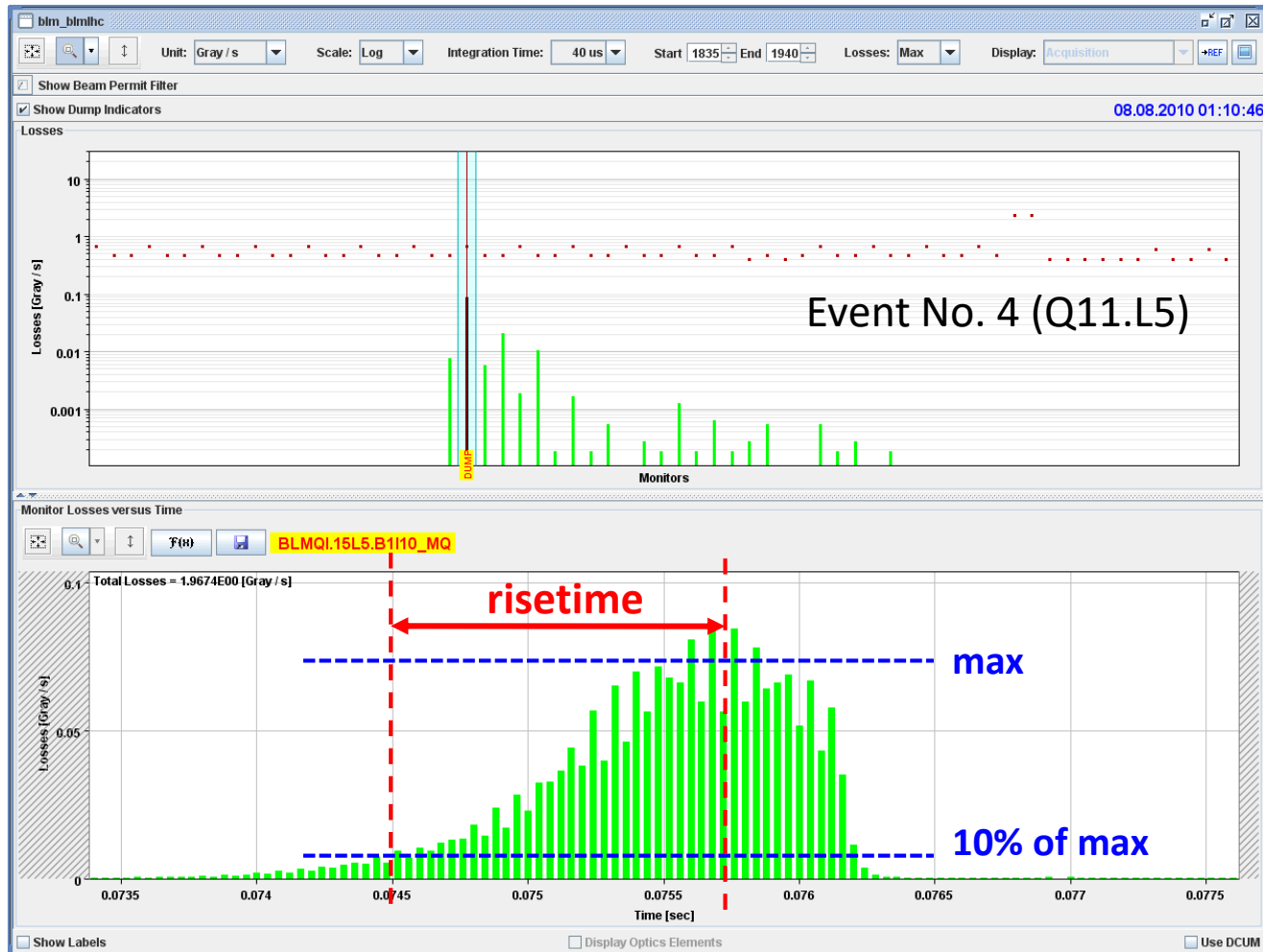




- The RP positions (25/20 σ H/V) had been validated previously with standard loss maps (1 bunch).
- The effect of the RP was checked on a subsequent end of fill:
 - RP was slowly moved towards its 20 σ position – no problem.
 - The RP was moved back and forth between out and 20 σ – no problem.
 - A vertical orbit bump of 1 σ (0.5 mm) was trimmed in in steps in 0.2 σ to exclude any orbit difference – no problem.
- Since then the RPs were inserted a few times for data-taking without problems.
- It seems that the event was triggered by something that came with the RP. This is the event that seems to point most clearly in the direction of 'dust' particles.

- Event parameters:
 - Longitudinal position
 - Beam
 - Plane : focusing plane of the nearest quadrupole
 - Signal maximum (RS01) and risetime (see next slide). Maximum signal from \approx highest loss signal near dump BLM.
 - Intensity
 - Length in stable beams

- risetime: defined as time from 10% of max signal to max signal for RS01 (40 us).



s : longitudinal coordinate (0 = atlas)

plane : focussing plane of the nearest quadrupole

beta : betatron function of the focusing plane

risetime : time from 10% of peak loss to peak loss in RS01

intensity : no. protons at time of dump

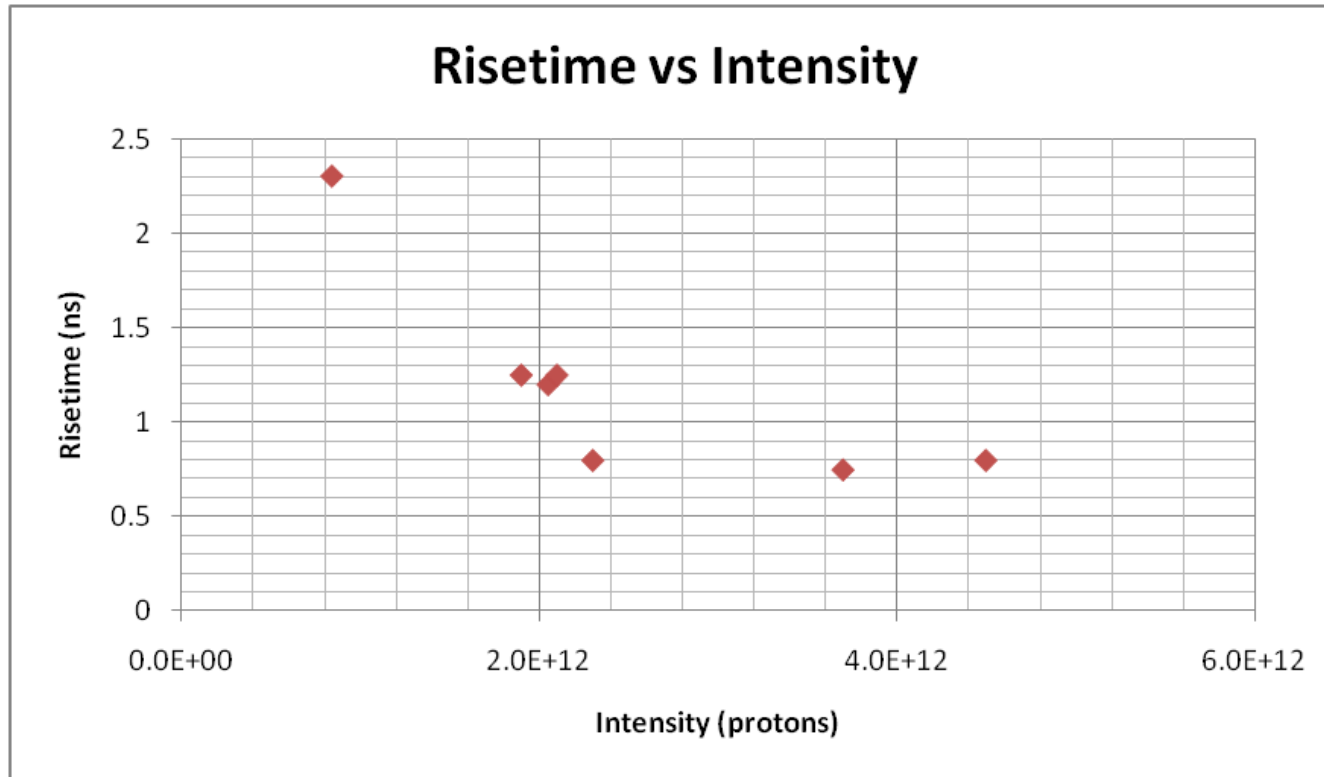
length : fill length in stable beams before dump

Date	Location	S (m)	Sector	Beam	Plane	Beta (m)	Max RS01 (G/s)	Risetime (ms)	Fill	No bunches	Intensity	Length (h)
07-07-2010 20:22:19	MBB.8L7**	21380	67	2	V	120	0.08	2.3	120x	9	8.4E+11	0
30-07-2010 07:26:38	Q4.R5	15160	56	2	H	274	0.08	1.25	1253	25	1.9E+12	13.15
07-08-2010 02:14:38	Q11.L4	11224	34	1	H	179	0.09	1.2	1264	25	2.1E+12	0.53
08-08-2010 01:10:46	Q15.L5	14342	45	1	V	184	0.07	1.25	1266	25	2.1E+12	1.97
14-08-2010 19:13:36	Q6.R5*	15222	56	1	V	211	0.092	0.8	1284	25	2.3E+12	3.48
23-08-2010 13:50:28	Q22.R3	9354	34	2	H	180	0.082	0.75	1298	48	3.7E+12	12.97
26-08-2010 17:25:56	Q25.R5	16179	56	1	H	180	0.125	0.8	1303	48	4.5E+12	13.08

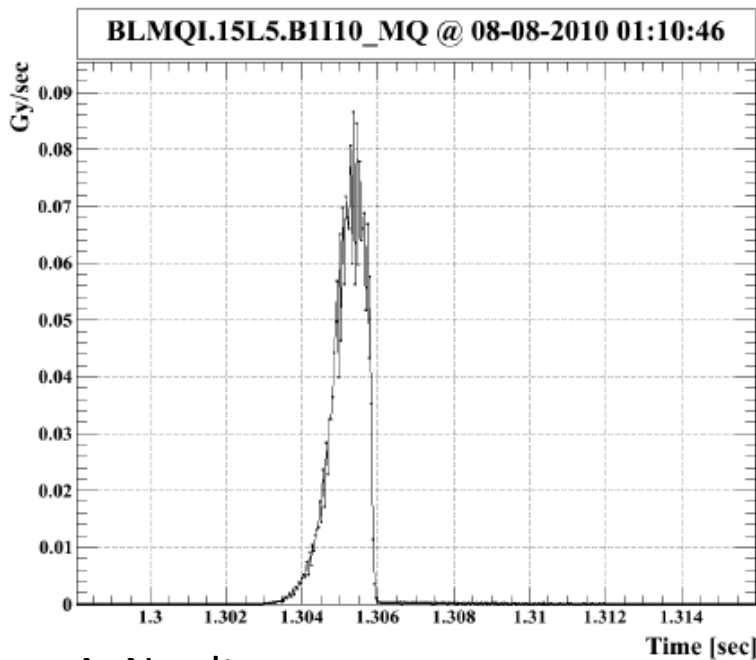
*Roman pot event

** 5 pre-cursors / in squeeze

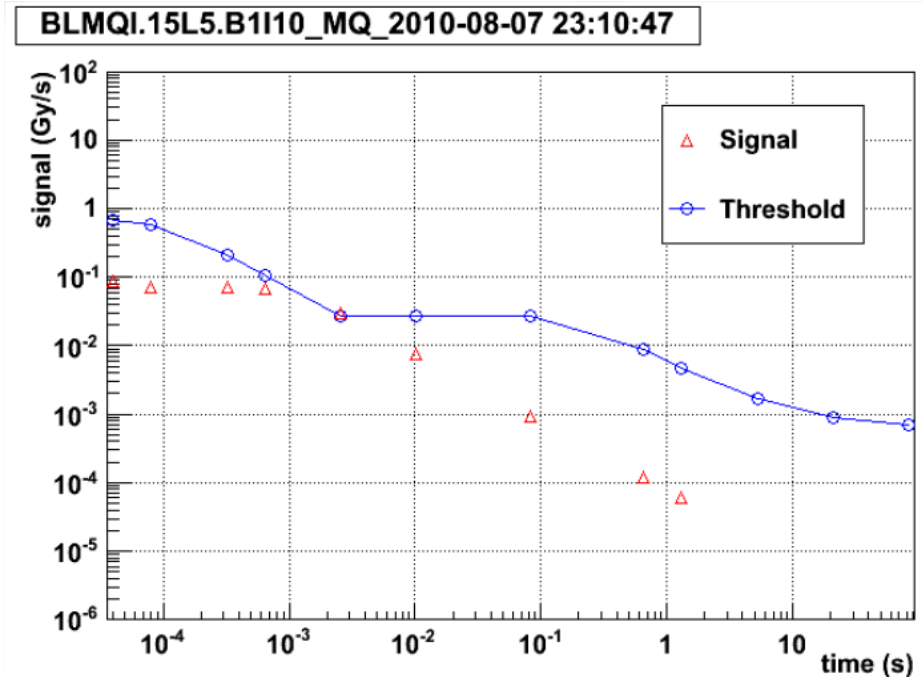
- Trend for risetime to decrease with intensity...



- The peak losses are very similar from event to event.
- In some cases the max. loss as recorded by 40 us RS had already passed when the beam was dumped on the integrated loss over 0.6 or 2.4 ms (RS4/5).
 - Some events may not have been noticed (as dumps) with BLM thresholds a factor 1.5 or 2 higher !



A. Nordt



- Raising the thresholds by a factor 2 could potentially avoid dumps without quenching.
 - Work ongoing to re-analyse underlying models for thresholds. Expect the thresholds to increase !
- But for the moment proposal is to keep the thresholds as they are in order to collect more events – it is very likely there will be more!
- Benchmarking with wire-scanner:
 - Essentially the same time scale (~ 2 ms) of loss.
 - Well defined ‘dust-like’ source (30 μm C wire at 1 m/s).
 - Probe the quench limit for ms-scale losses.