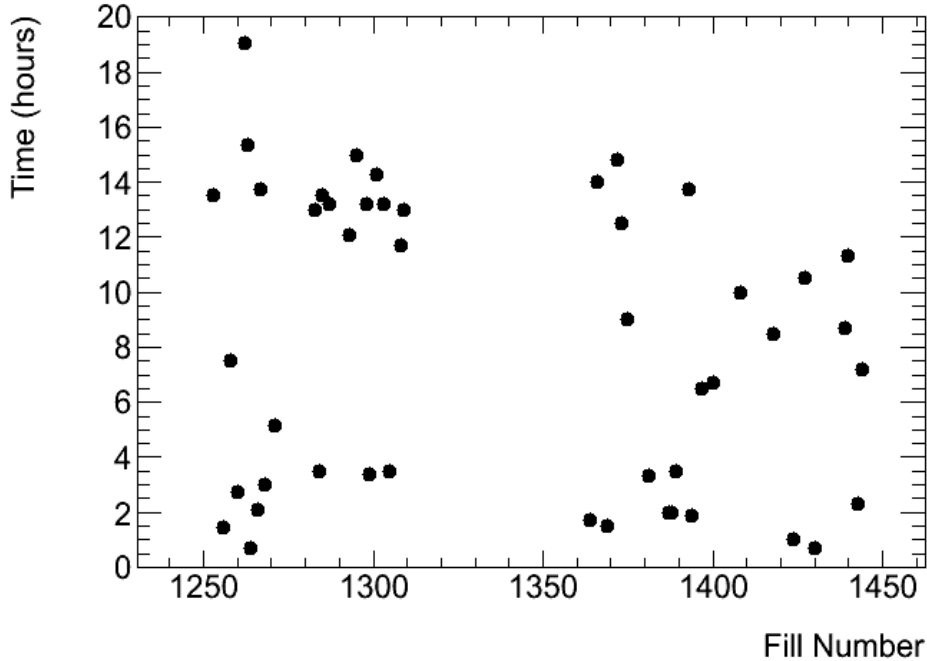


SEARCH FOR “UFO”s

E. Nebot for the BLM team

SEARCH FOR “UFO”s



Scan in logging database for UFO-like events. All fills with stable beams from 31/07 until 27/10 included in the analysis.

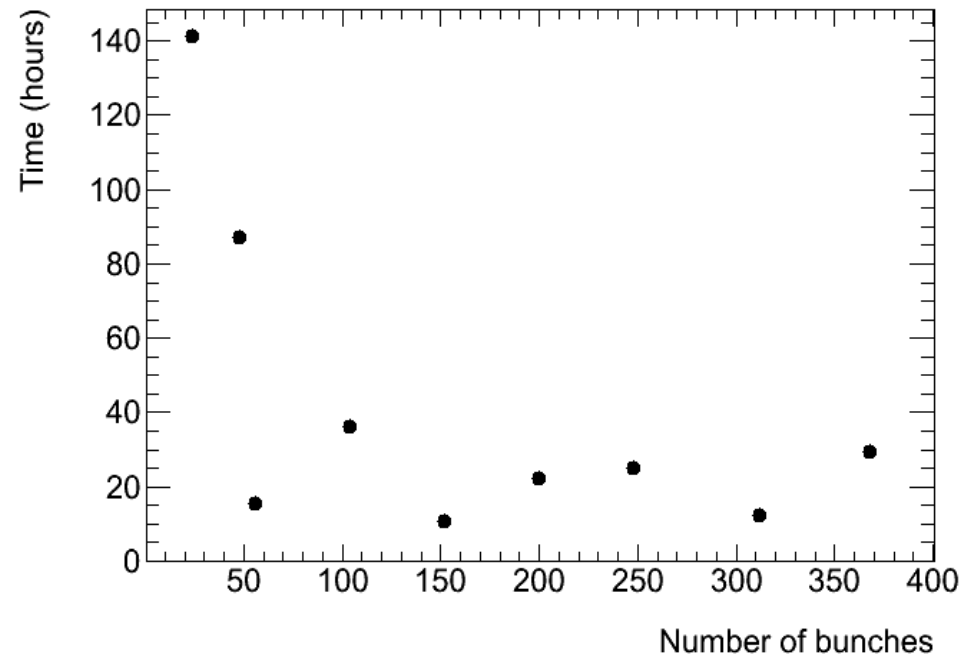
~380 hours of stable beam

Beam Dumps:
included

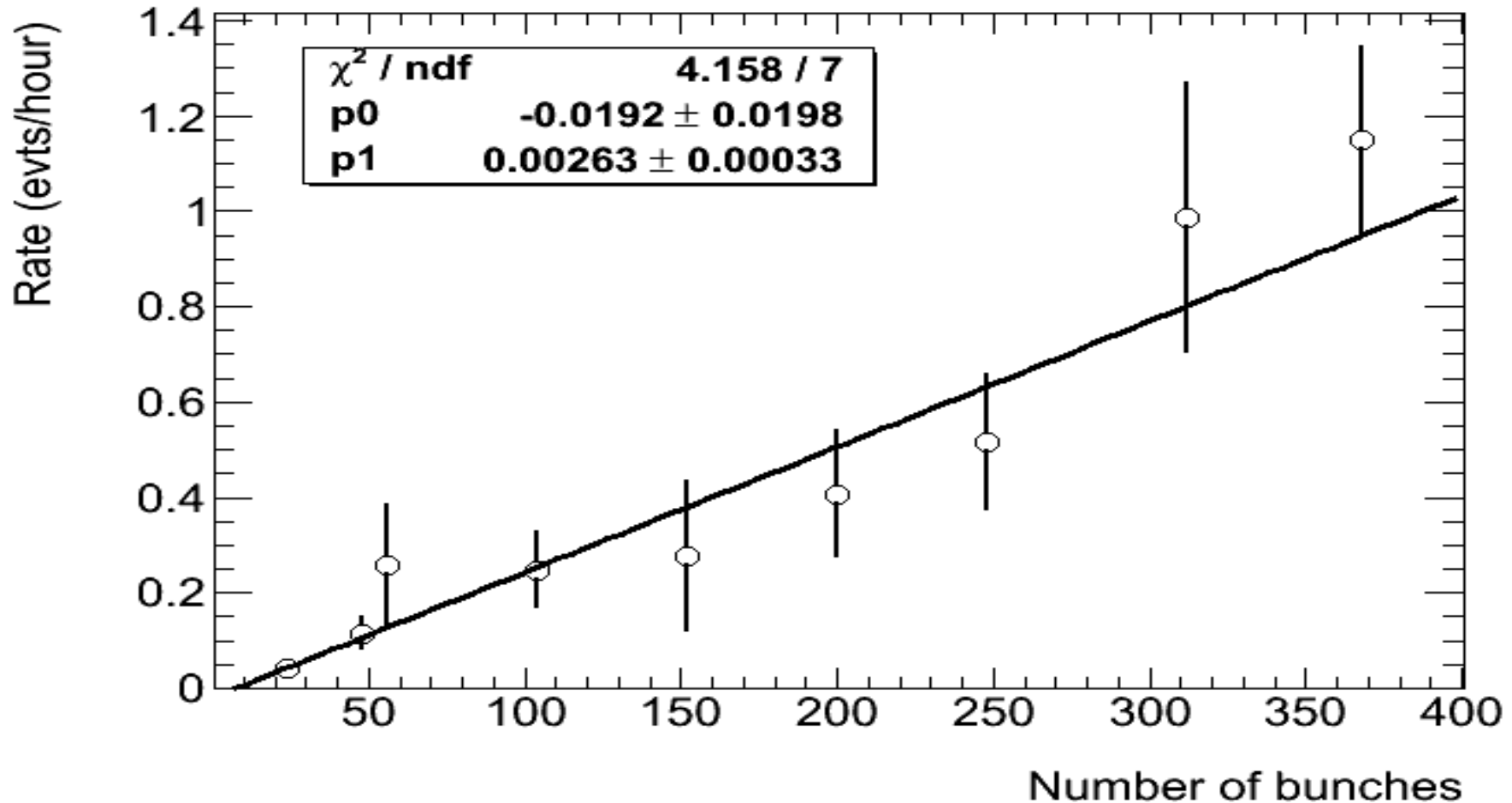
- ✓ 24 B => 3
- ✓ 48 B => 2
- ✓ 56 B => 1
- ✓ 152 B => 2
- ✓ 312 B => 1
- ✓ 368 => 1

Not included

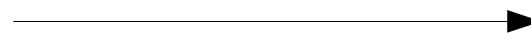
- ✓ 2 dumps in previous fills
- ✓ 2 dumps not during stable beams



INTENSITY DEPENDENCE

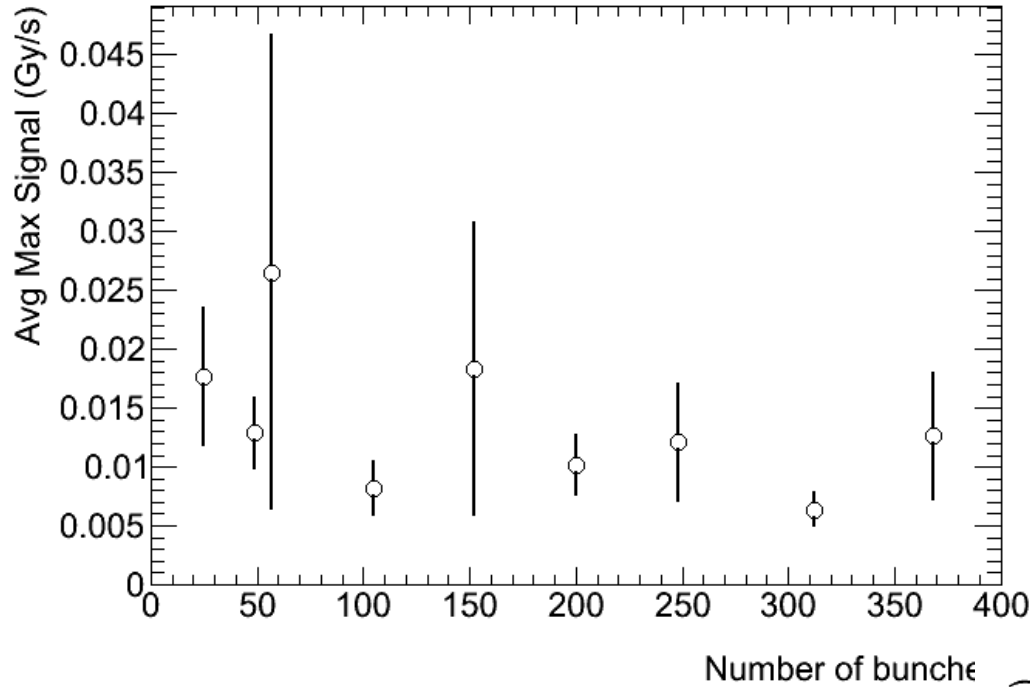


“UFO” Rate
Increase with intensity



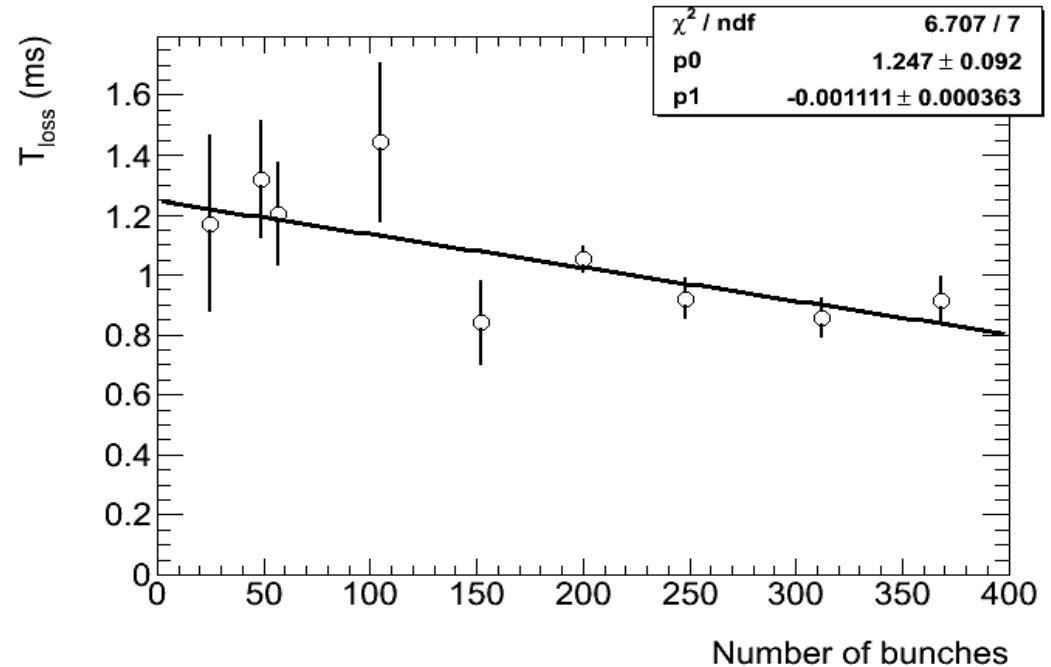
2000 Bunches => ~ 5.2 evts/hour

INTENSITY DEPENDENCE



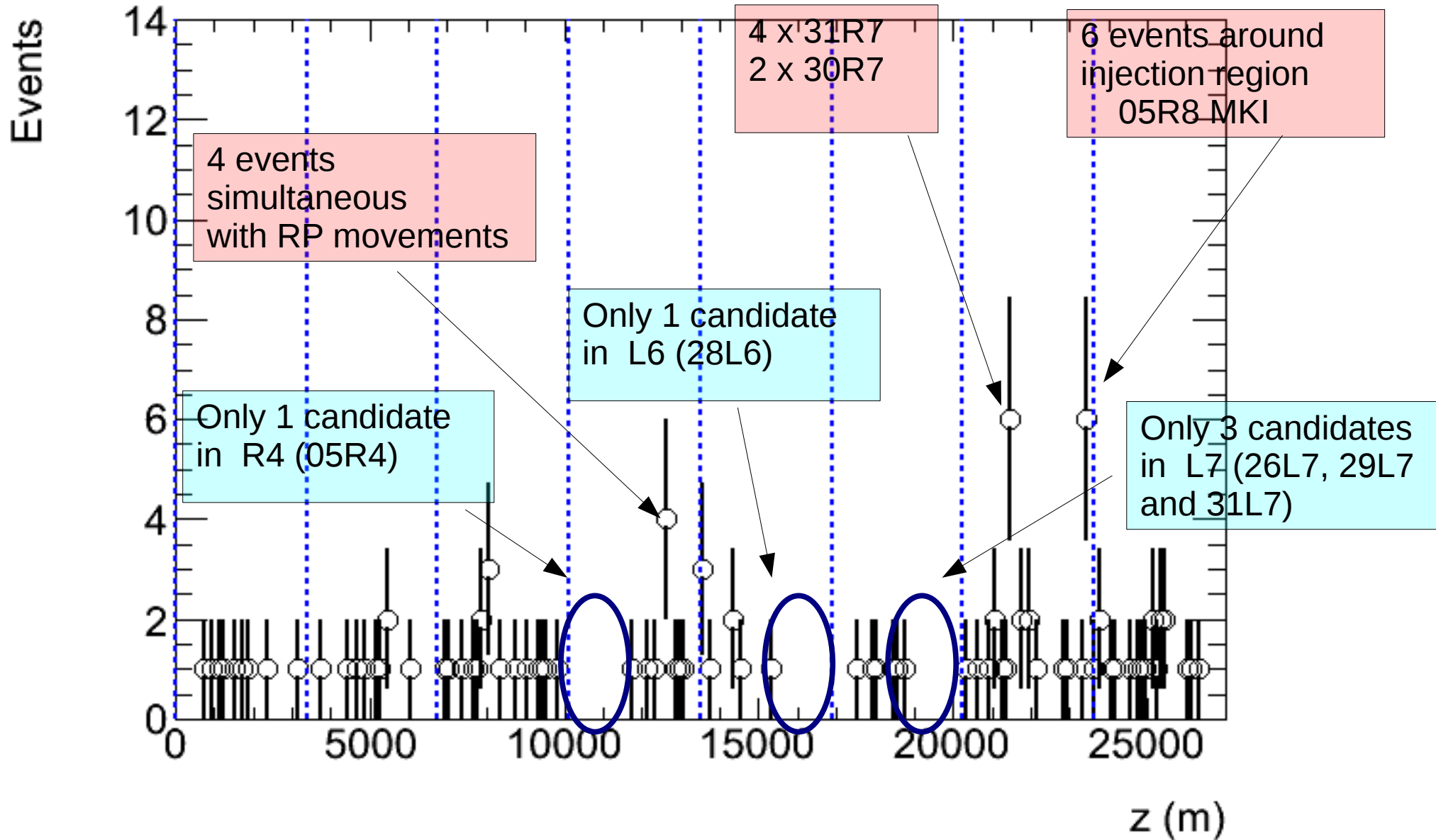
Not clear that maximum signal in the BLMs also scales with intensity.

Tendency to decrease of the loss duration



HOT/COLD SPOTS

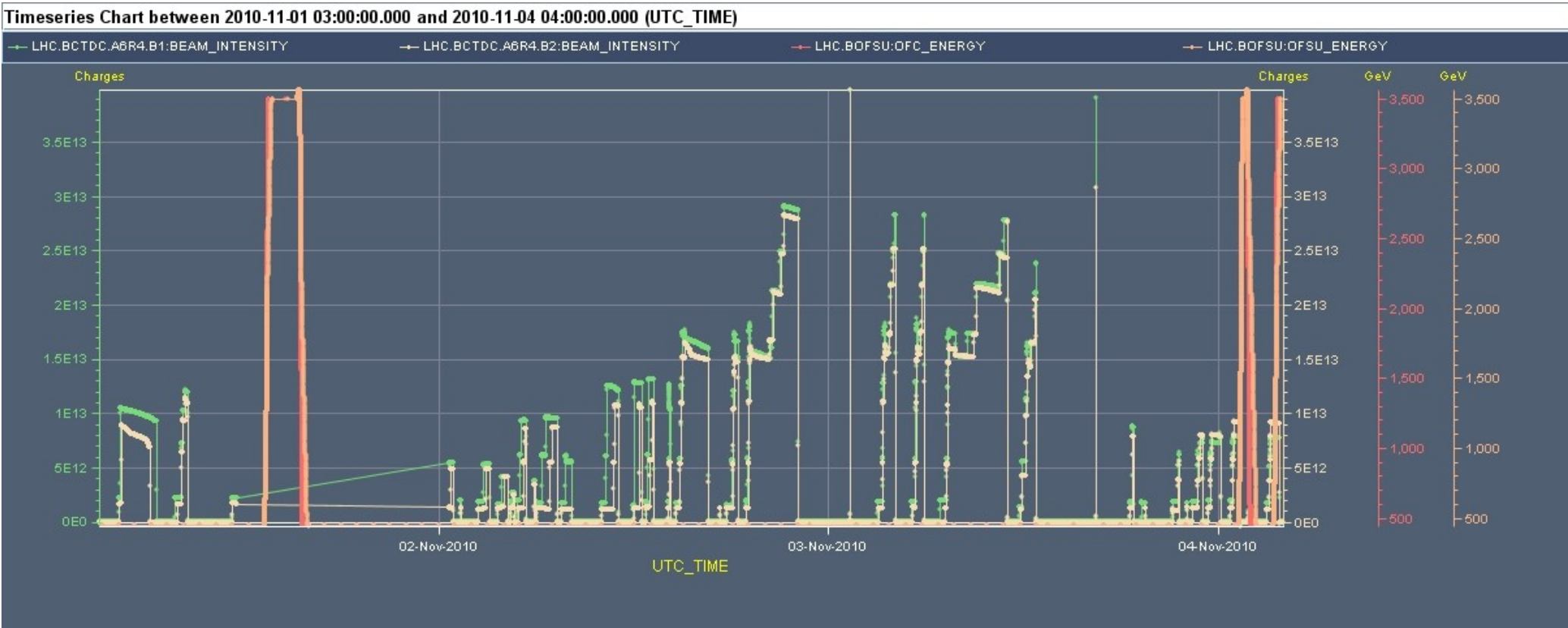
Histogram => 100m/bin



HOT/COLD SPOTS

- SECTOR 1-2: 9 candidates (5 R1 and 4 L2, 1 of them around injection region).
- SECTOR 2-3: 9 candidates (4R2 and 5L3)
- SECTOR 3-4: 17 candidates (11 R3 and 6 L4)
- SECTOR 4-5: 12 candidates (2 R4 and 10 L5)
- SECTOR 5-6: 8 candidates (7 R5, 4 of them simultaneous with RP mov, and 1 L6)
- SECTOR 6-7: 7 candidates (4 R6 and 3 L7)
- SECTOR 7-8: 20 candidates (13 R7 and 7 L8). 4 Candidates in cell 31R7 => BEAM 1
- SECTOR 8-1: 29 candidates (18 R8, 6 of them around injection region, and 11 L1). Candidates in cells 26L1, 27L1, 28L1, 30L1, 2X 32L1 => BEAM 2

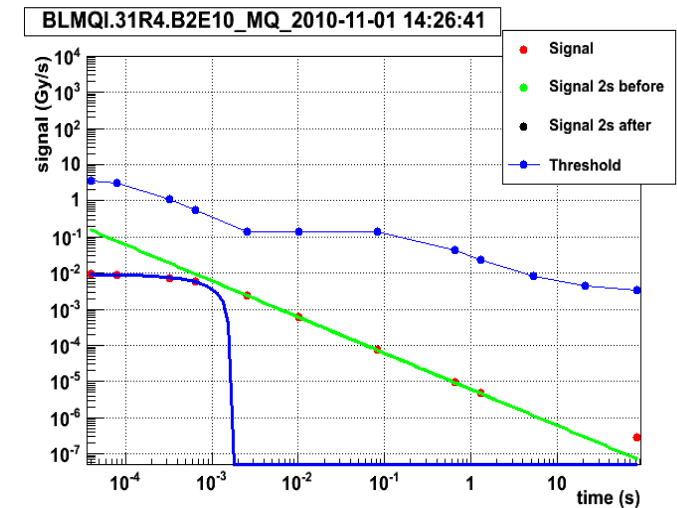
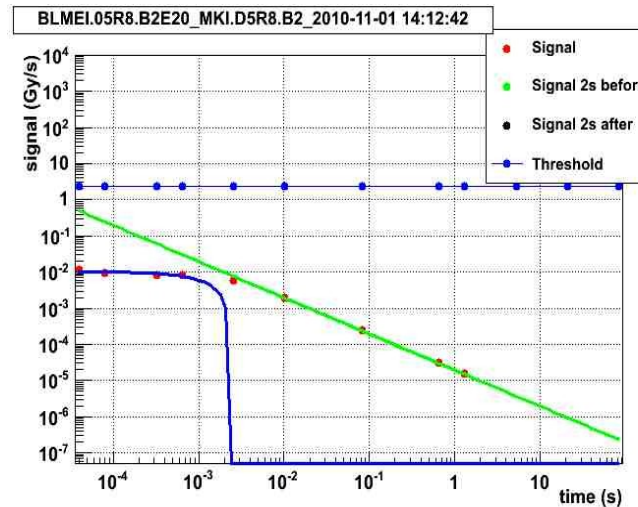
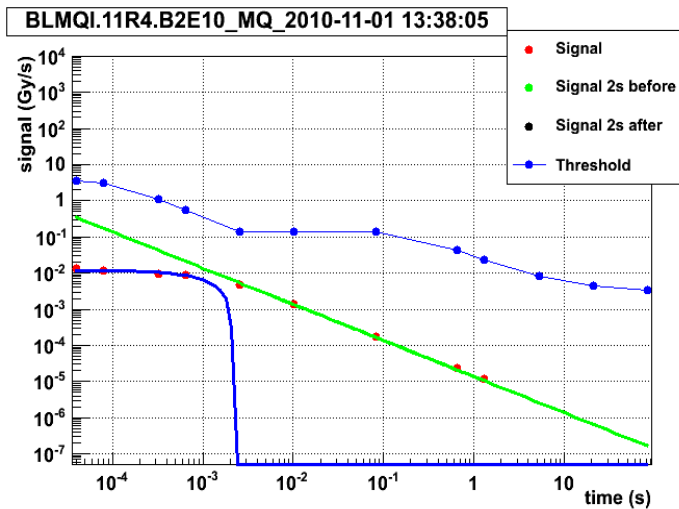
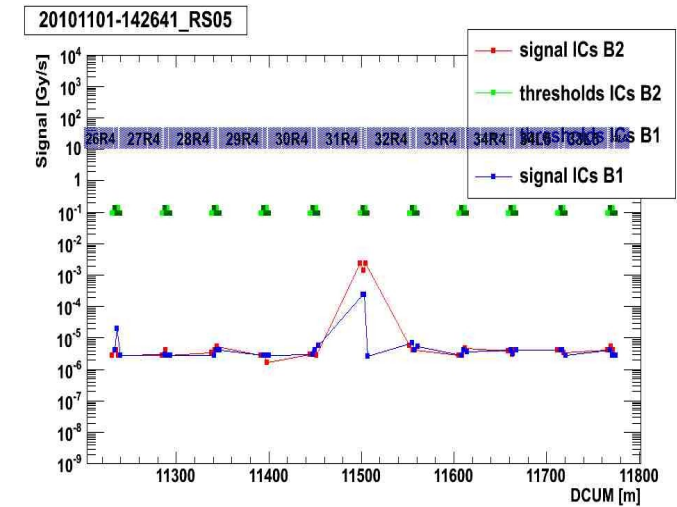
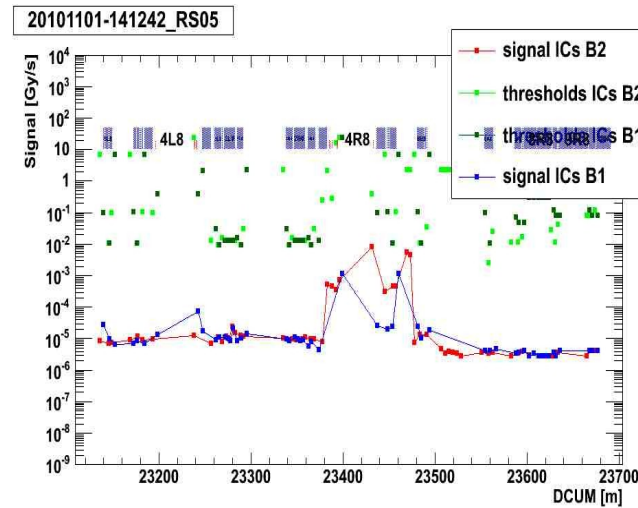
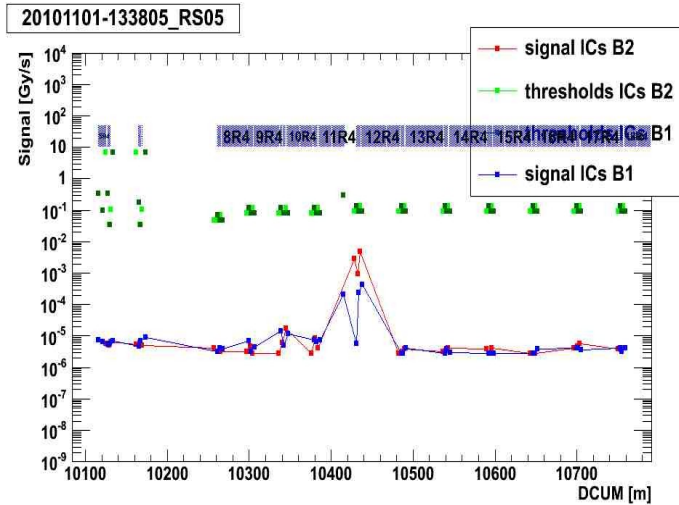
FIRST LOOK AT NON STABLE BEAM



No sign of UFOs at 450 GeV.

FIRST LOOK AT NON STABLE BEAM

→ Only 3 candidates. All in fil1462 (All three during flat top. 01/11 from 13:35 to 14:46)



CONCLUSIONS

After ~380 hours of stable beam:

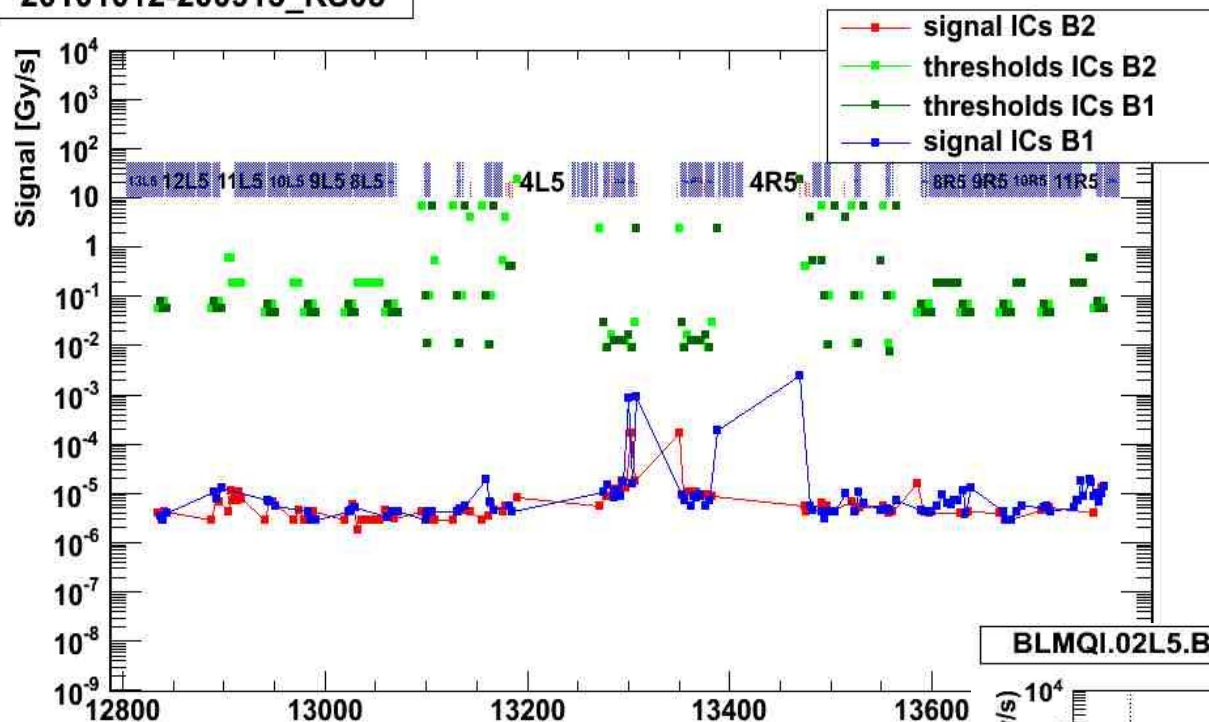
- The “UFO”-like even rate clearly increases with intensity. Not very many of these events were close to dump the beam.
- The BLM signals increase with intensity (?)
- The duration of the losses decrease with intensity.

Clear hot/cold spots around the ring

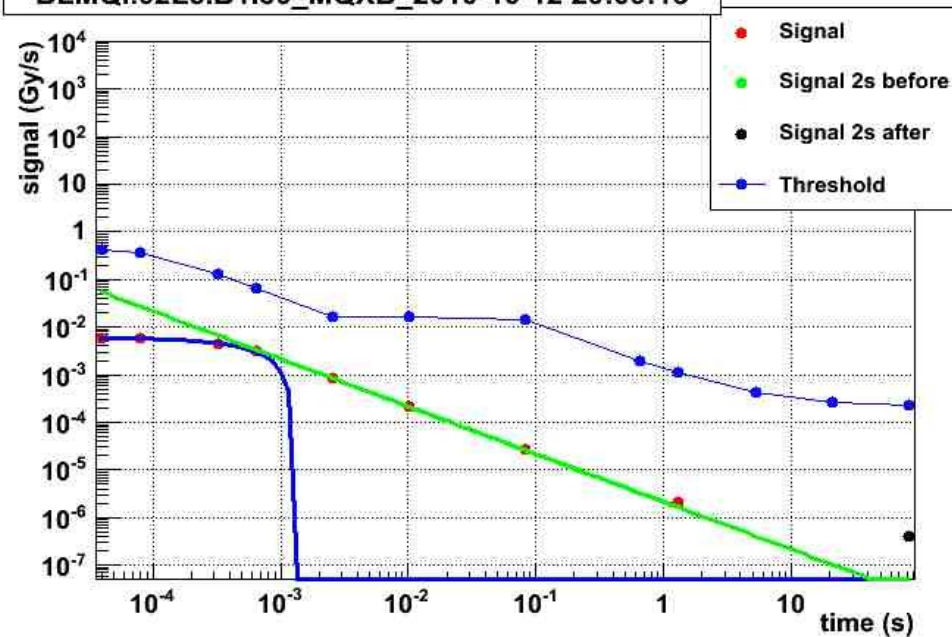
No sign of UFOs at injection. 3 candidates at flat top (fill 1462)

CMS UFO

20101012-200913_RS05

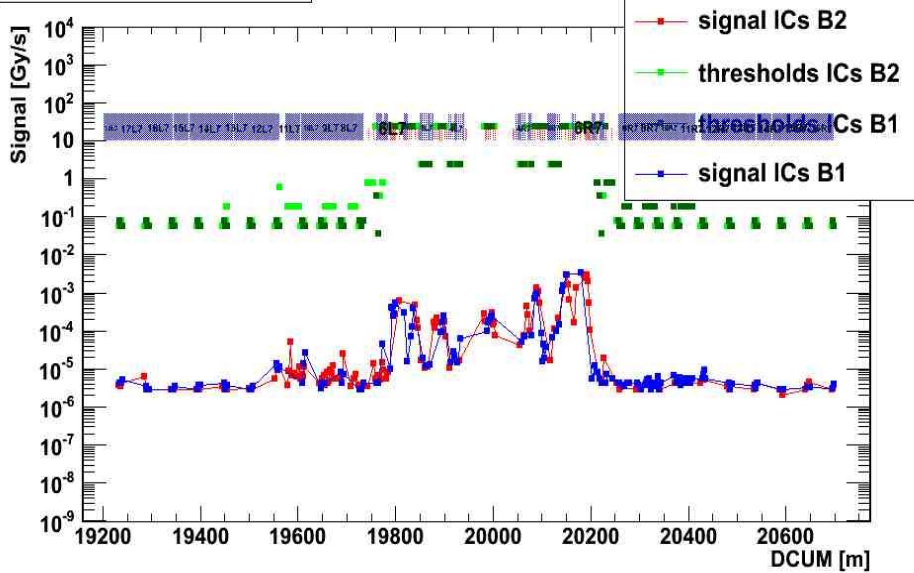


BLMQI.02L5.B1I30_MQXB_2010-10-12 20:09:13



CMS UFO

20101012-200913_RS05



plot vs. time, RS05

