

# TI8 Test 6-8 June

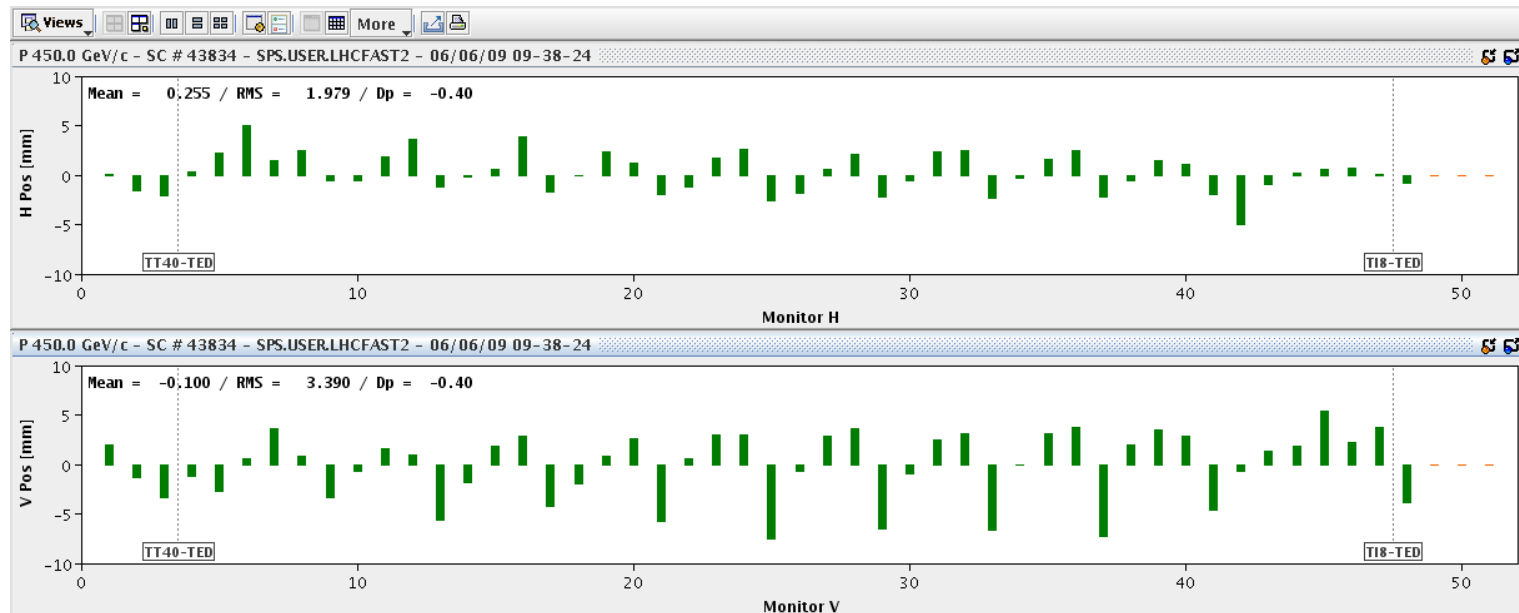
## Running conditions:

- Very high efficiency for us, for CNGS and for LHCb!
- Very stable conditions.
- Beams :
  - Until ~22:00 on Sunday : LHCPROBE,  $2-7 \times E9$ .
  - Sunday evening night : 12 bunches,  $1 \times E10$  and  $5 \times E10$ /bunch. Short attempt for more failed (not quite surprising).

# Trajectory

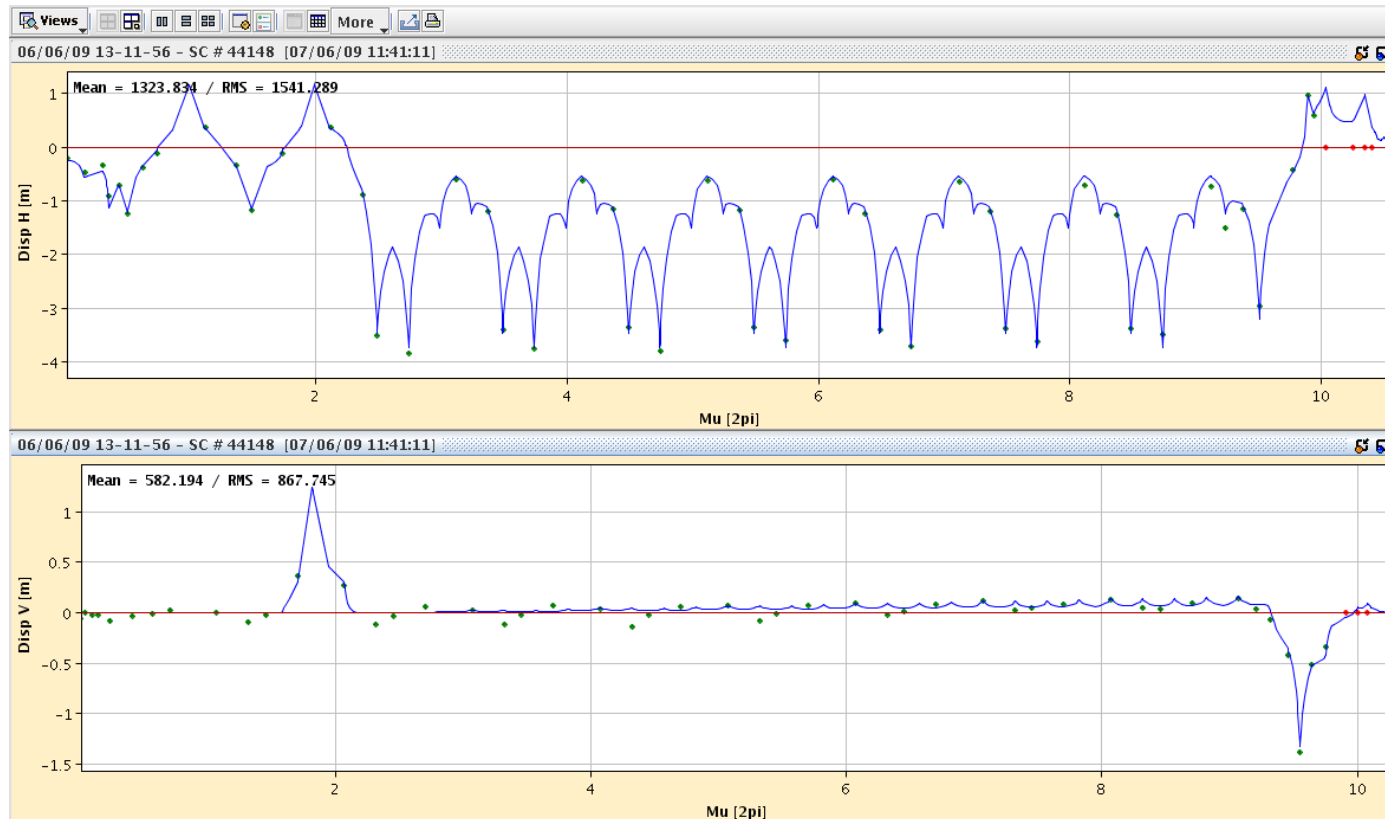
- Beam down the line immediately - was not the case in 2008.
- Positive effect of TT40 realignment (also for CNGS).
- Line momentum back to 450.5 GeV (2008 setting with LHC).

## Uncorrected traj @ 450.5 GeV



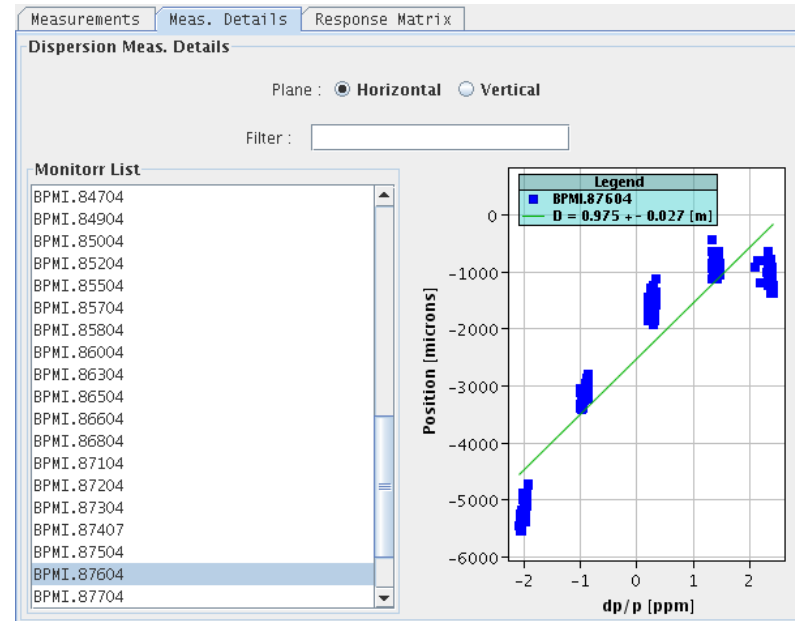
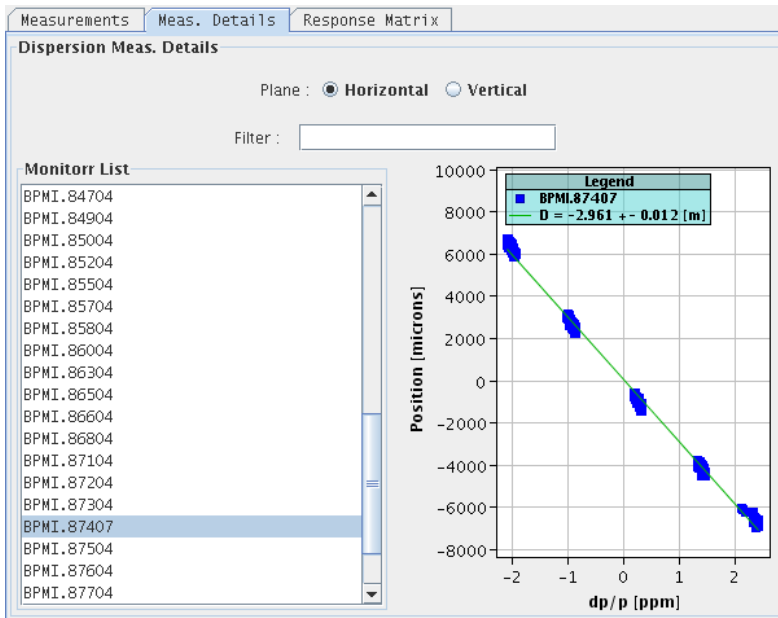
# Optics

- Large H dispersion mismatch ( $\sim 100\%$ ) observed at end of TI8 + LHC.
- No. of BPM readings more than doubled wrt 2008 to improve optics analysis.
- Many response and dispersion measurements done under diff. conditions.  
**Dispersion looks always good !**



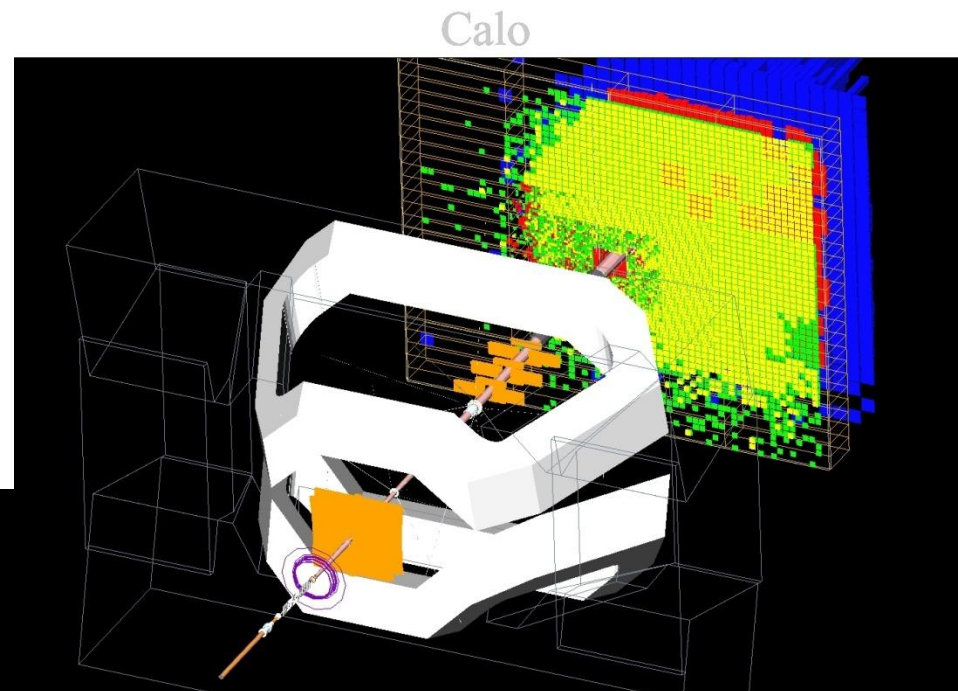
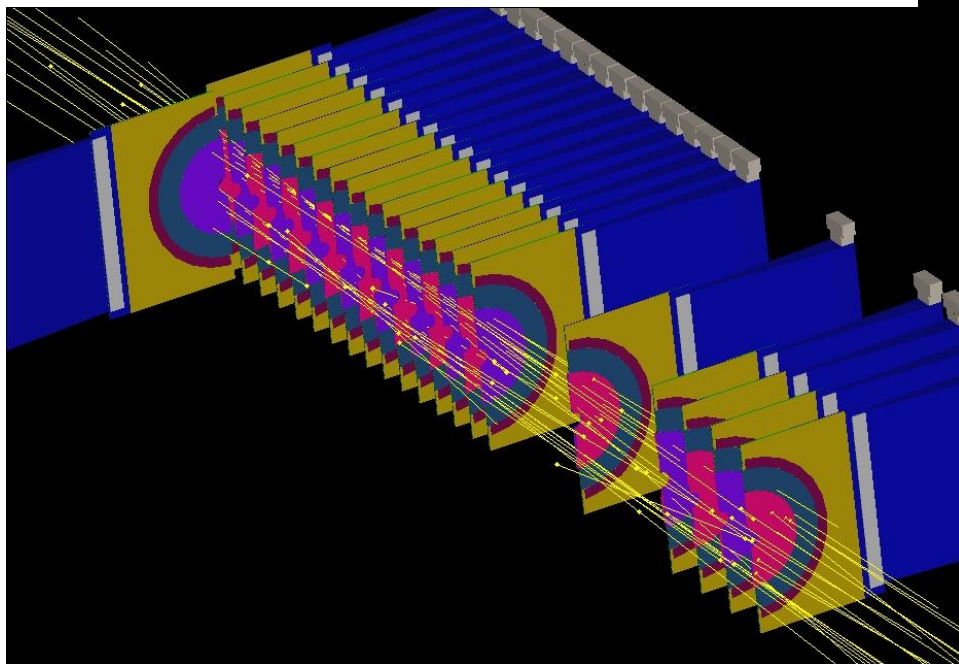
# b3

- A rather large b3 field error in the TI8 dipoles was observed in 2008.
- Confirmed in 2009:
  - Response at  $dp/p \neq 0$ .
  - Non-linear beam position with  $dp/p$ , mostly visible on the last BPMs, confirmed with BTVs. Correlation with b3 to be confirmed.

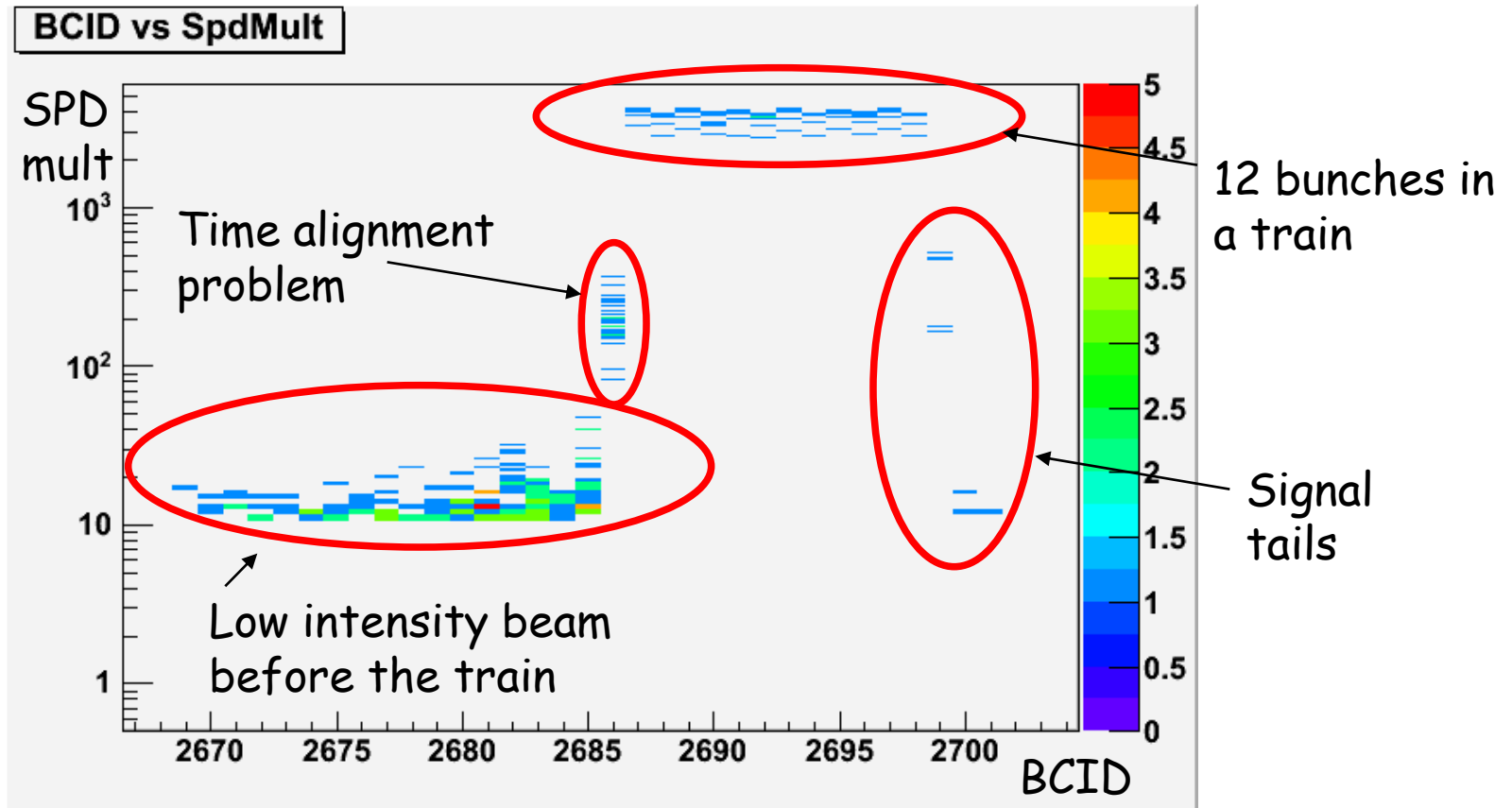


# LHCb

- LHCb very happy !
- Recorded 30'000 tracks with VELO (2000 in 2008).
- Able to observe 4 parasitic bunches at ~1% level in front of the 12 bunches.



# Scintillator Pad Detector multiplicity vs BCID



# Issues

- A few minor ones here are there:
  - LHC mastership on the beams coupled to SFT/CNGS inhibits???
  - LHC-SPS locking and fRF trims.
  - Collimator motors...
- WIC crate crash during beam test with collimators - SEU ? To be confirmed.
- 2 BPMs developed large offset after the first 12 bunch shot at 5xE10. Offset did not disappear when intensity was lowered...

