Issues and to do of SVT after shutdown

- (1)   L2 decision timeout from SVT (Alex / Taka)
    - --   There are several L2DTO at the beginning of run and low luminosity, but acceptable level for physics run right now.
    - --   See page2 or SVT e-log for more details

- (2)   Wedge#10 problem   (Stefano / Roberto)
    - --   svtsim / SVTD difference is due to wedge#10.
    - --   Stefano performed AM board test, but can't explain this problem (See SVT e-log, Stefano's email and page4)

- (3)   TF spare boards? (UofC, Un-ki, etc.)

- (4)   Beam position readout and b0svt06 clean up (Marco / Stefano / Taka)
    - --   Marco / Stefano found bug for SVDD in VME code.
    - --   Need more fixing and experiment. (See SVT e-log / page5)

Level 2 decision timeout from SVT (unsolved)

- When the problem occurs:

- L2 complains that SVT does not send any track information.
  (and Tom Wright confirmed that this is true using oscilloscope.)

  This happened at the beginning of the run and low luminosity (e.g. ~5.0E30)

- The SVT chain does not appear to be clogged (all "hold" lines are down, no DS is active, no error LED is set)

- the "whodunnit" output looks ok (SVT has no error internally)

- One of the last resorts was the good old oscilloscope. Triggering on L1A we looked at the DS of the last SVT merger (which is before the GB) and we saw the DS firing at least once: the EE word at least is going out

- The spy dumps are not completely clear on what's happening. It would be useful to be able to sample all the spy buffers of one wedge and the b0svt06 spy buffers for one of these events to make sure that the pipeline really works all the way through without any problem. Marco is working on helping us on this one, but the time lag is making things a little difficult!

Level 2 decision timeout from SVT (cont')

- SVX/XFT seem to be sending data (otherwise why would we see the EE in the final merger)

- L2 is evidently not receiving data

- Remaining possibilities:
- the GB misbehaves in particular timing situations (the problem so far occured only with beam data!!!)
- the cable between us and L2 has transmission problems
- the tracklist board gets confused

 (note that last night the L2 folks swapped the tracklist board with a backup, but the error was still present, so if this is a problem between us and the tracklist it must be some kind of protocol issue showing up only in "extreme" situations)

 Any possibilities can't explain when we have error. (low rate effect?)
 At present, this effect causes ~a few % deadtime using autoHRR.
 (e.g. 2003/Dec/1 has no L2DTO error from SVT)

Wedge#10 problem

SVT fails (fail numbers / occupancy) :3/11/25 21.45
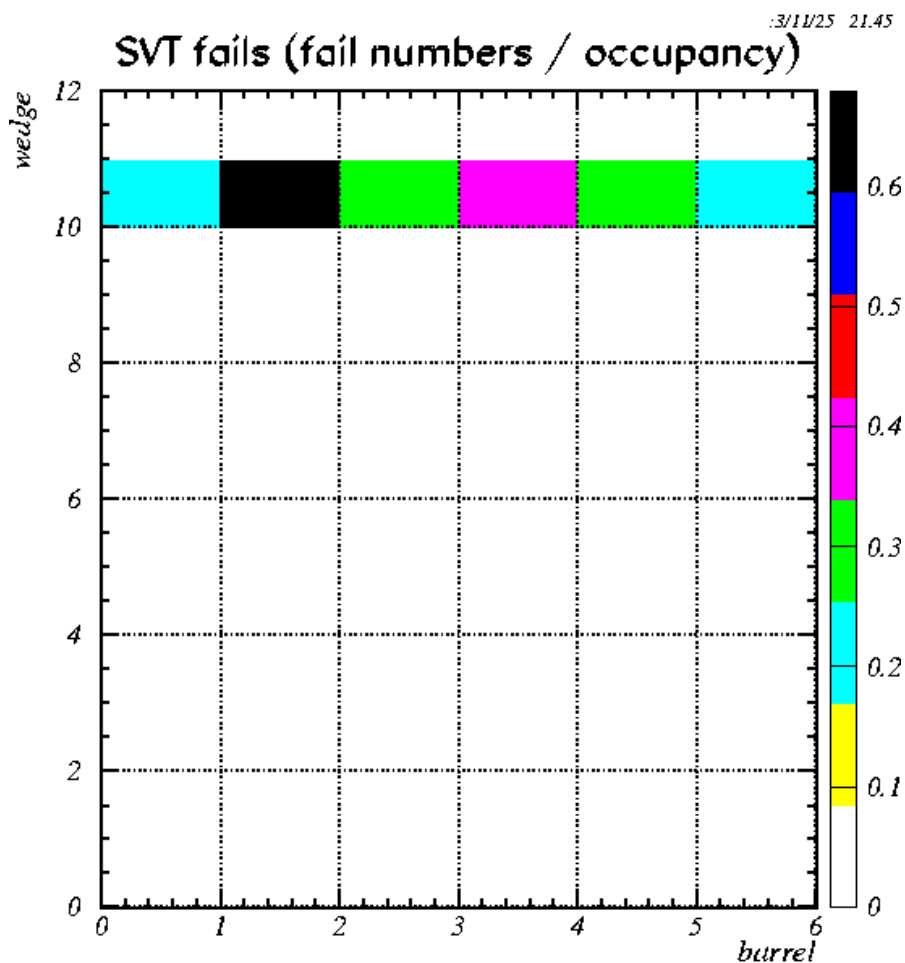
-- autoSVTmon shows mismatch between svtsim and SVTD is due to wedge#10

-- The road distribution for wedge 10 shows a big dip for lower roadId's and HB fires a certain number of roads without any SVX hits, which I never understood how can exactly happen. (next page)

-- crate status shows TF of b0svt05 has "too small #hits/road"

AMS(B) or HB board(s)?
But, Stefano found no problems in using test program.
We need more precise study (e.g: svtsim / board comparison using spydump data)
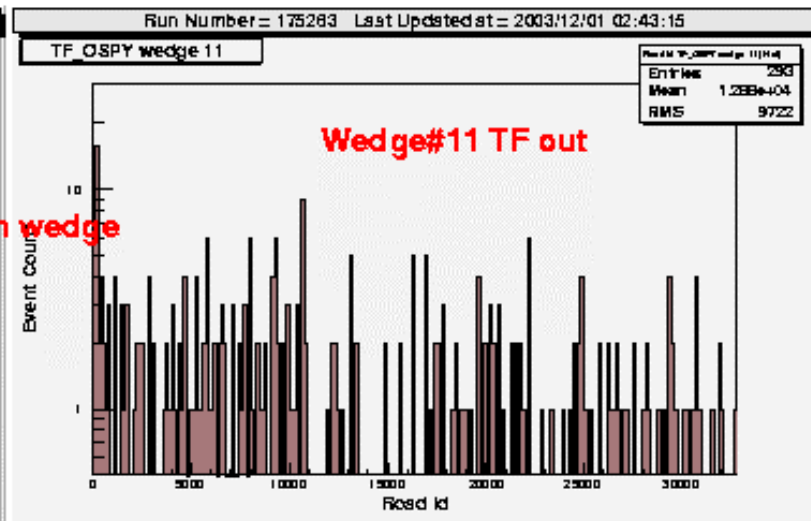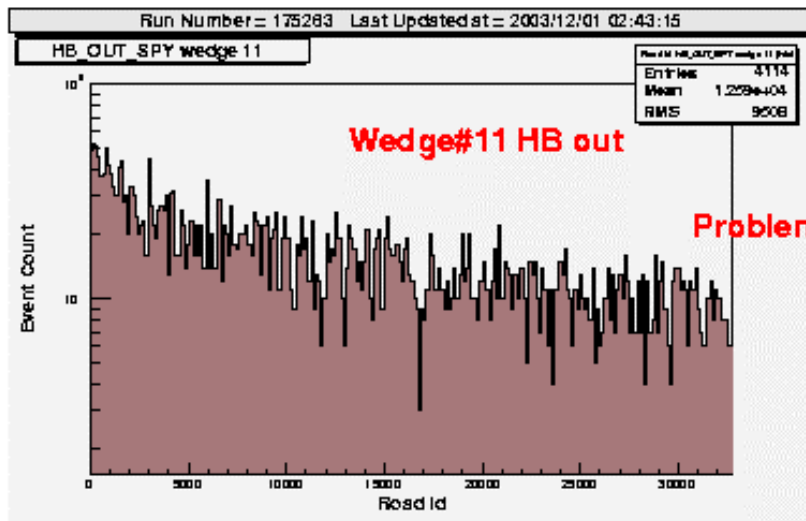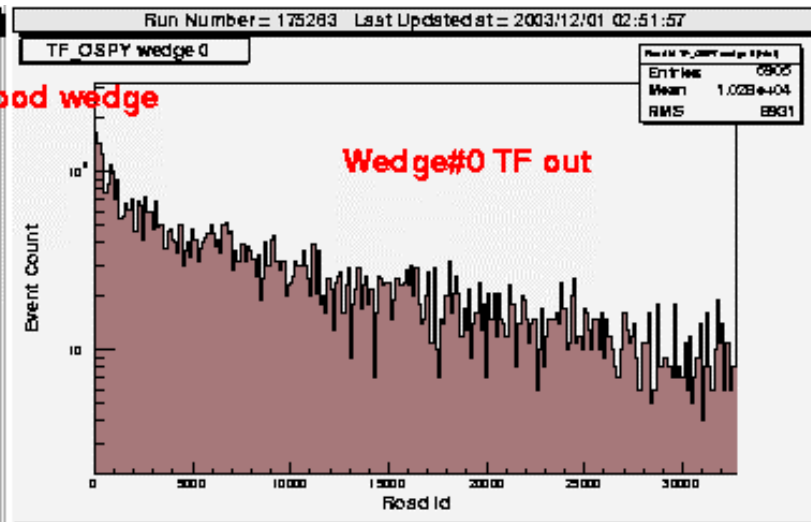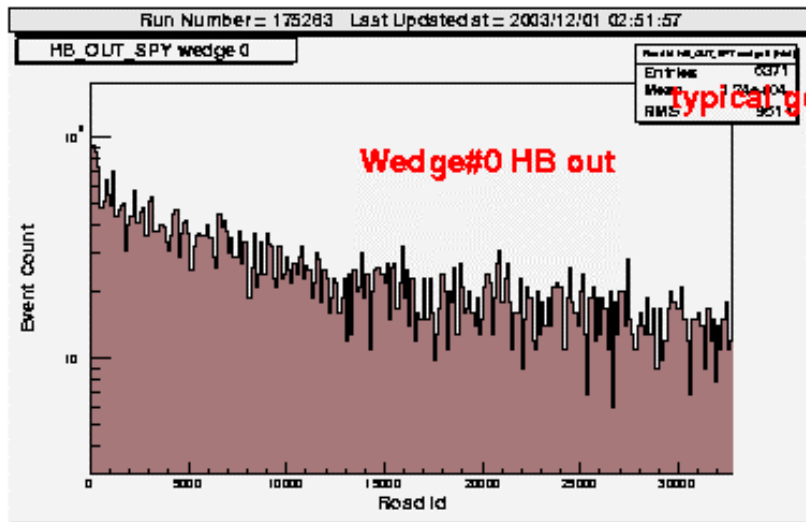
Wedge10 problem (cont')
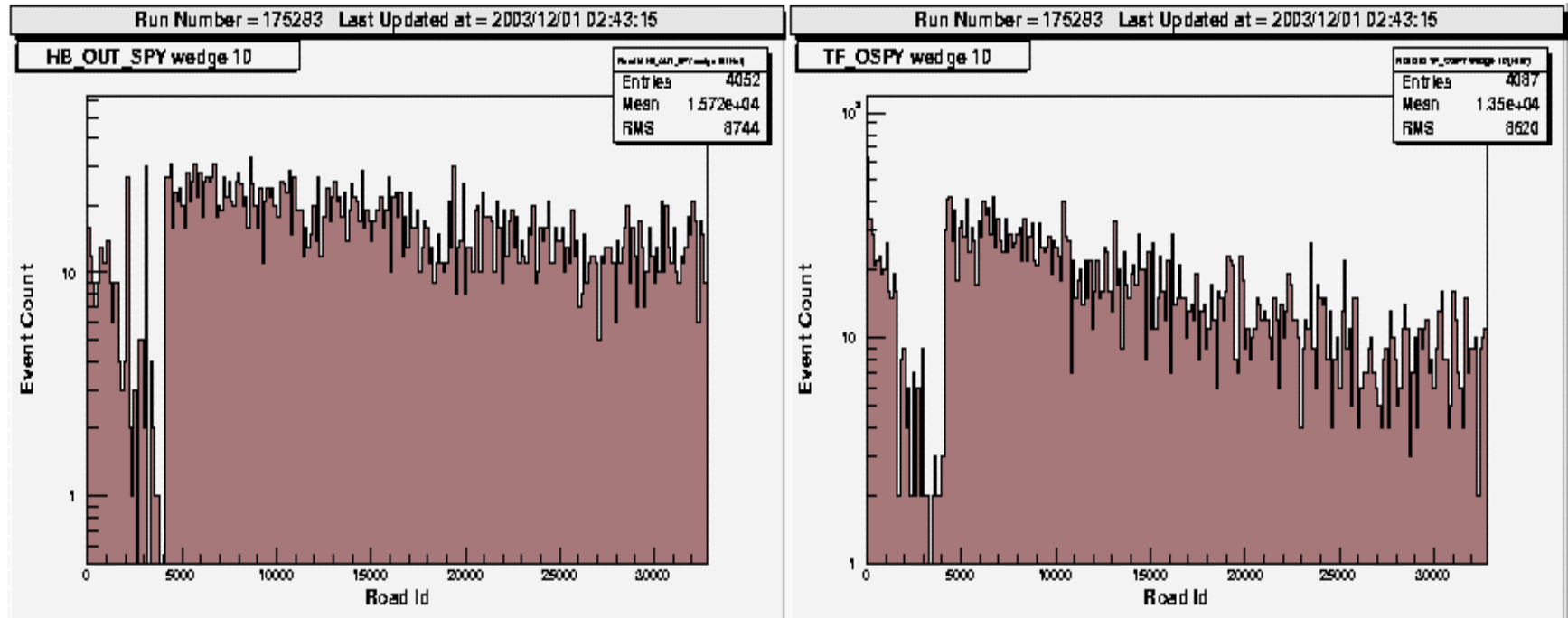
Road ID distribution, left: HB out, right TF out
We have unexpected small occupancy in <5000 region.

Possibility: (1) AMS(B) broken, (2) HB broken, (3) cable between
HB and AMS(B) was broken

Stefano's work: (1) Nov-28: AMS(B) board checking → no problem
(2) Dec-1 : HB random test   → no problem

Spare Track Fitter?

Wedge11 problem due to TF. (1) understandable? (2) Need spare board

Beam position readout problem and b0svt06 clean up

- Currently, physics run is going well with beam position data at L3. but, if we use "only merged functionality GB (slot#6)" to clean up MRG (slot#12) and GB (slot#13), we have no beam position data at L3.

- Marco found that this is due to data bank (SVDD) pointer problem Implimented by last summer. (VME code is to blame)

- I guess making slot space in b0svt06 is good for SVT group. We need to go by improved this.