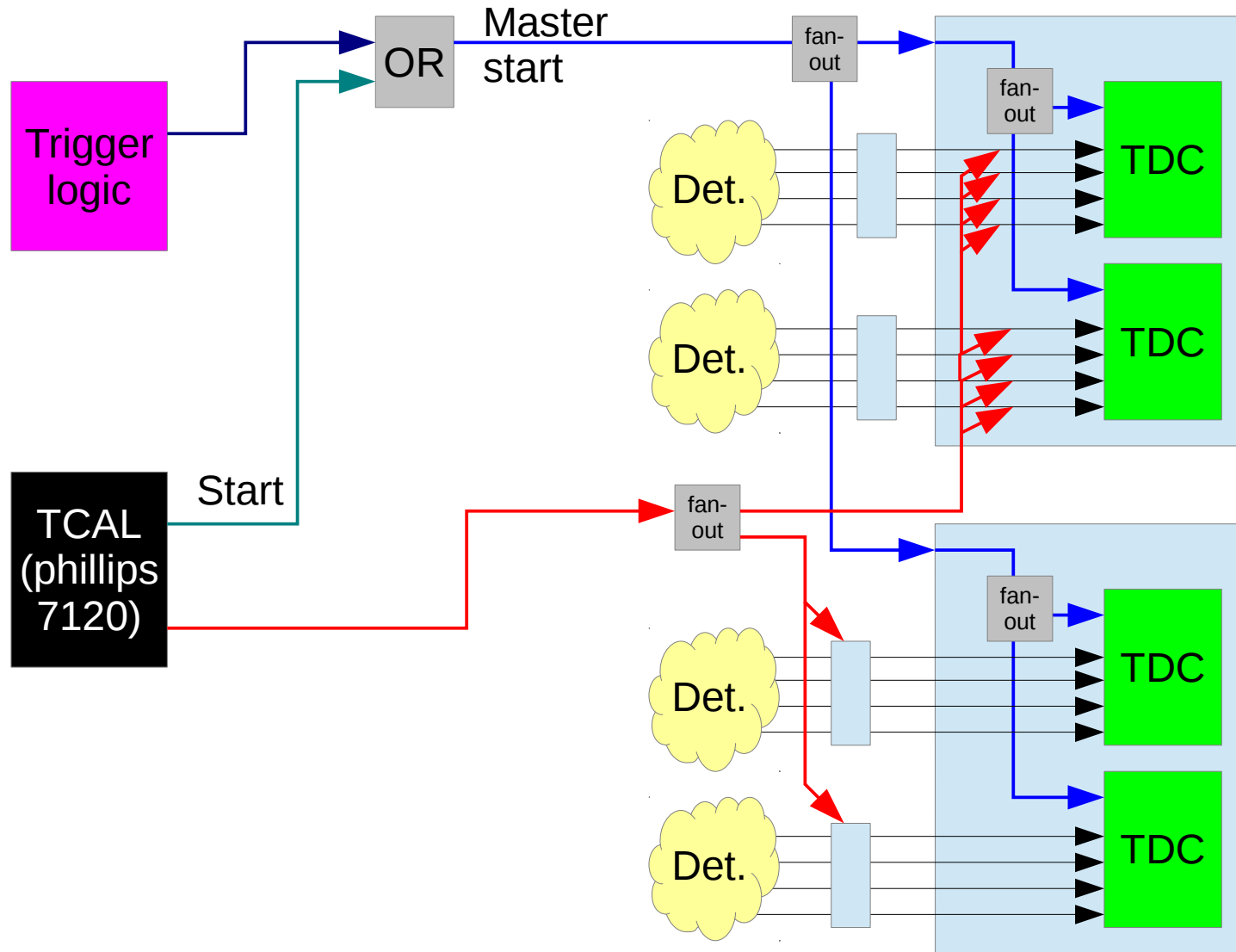


on ~~Master~~ start timing jitter

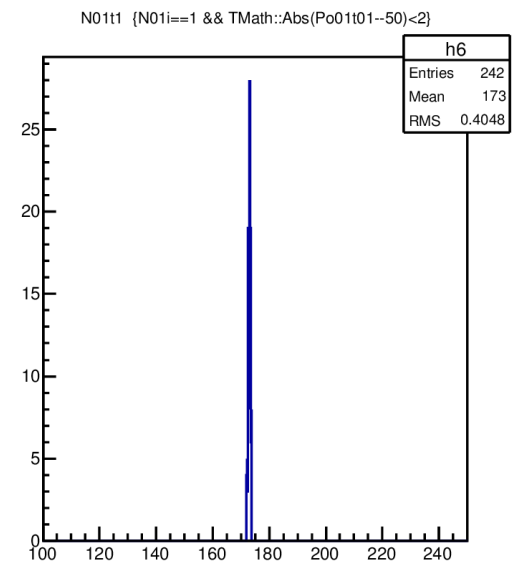
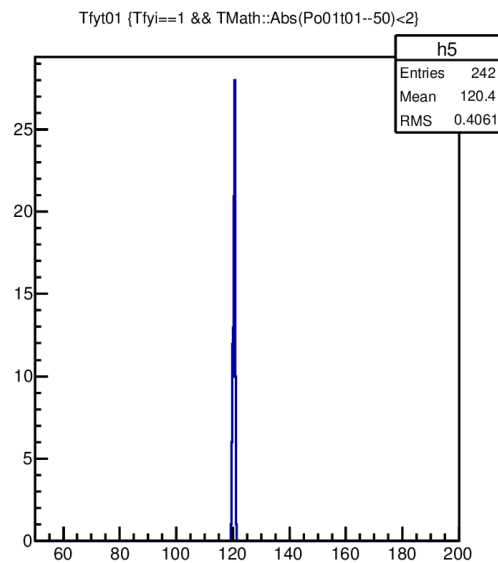
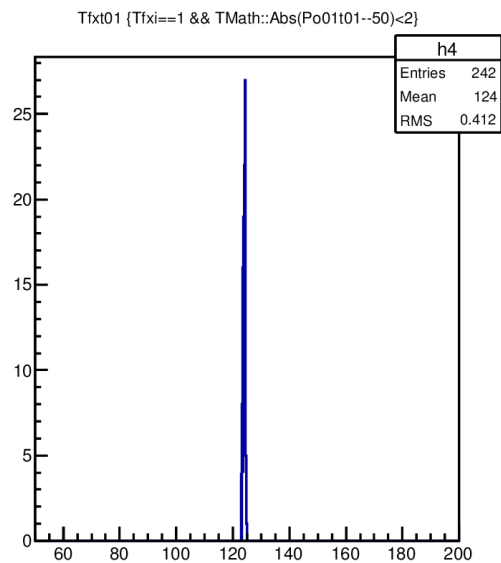
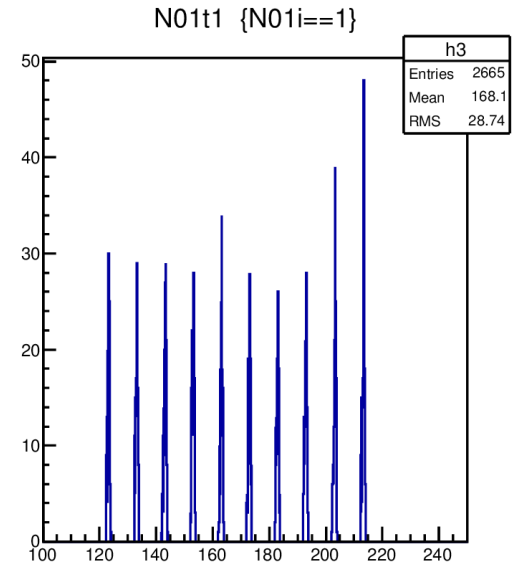
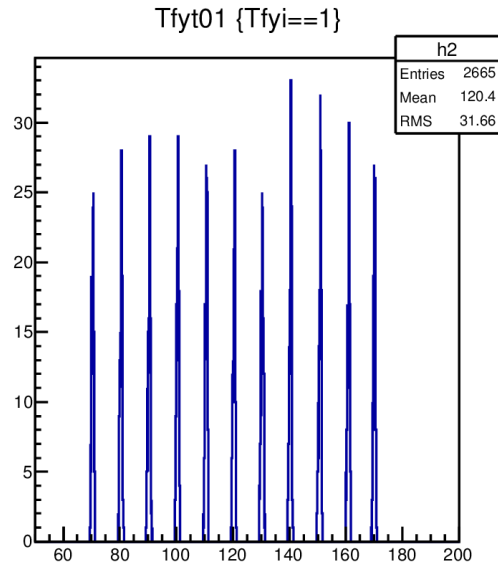
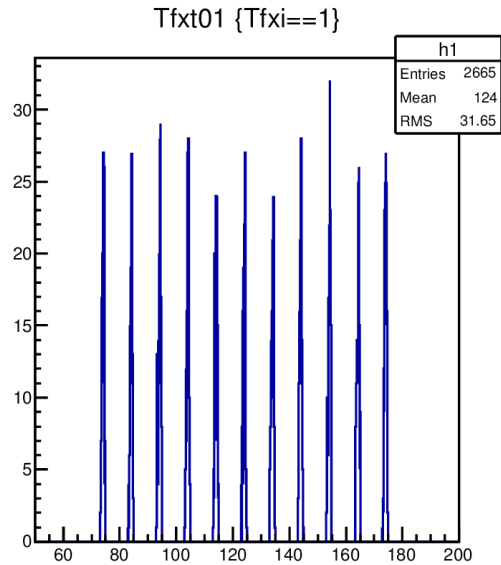
Just some remarks,
which may be useful to consider
when planning...

Håkan

Master start & TCAL distribution



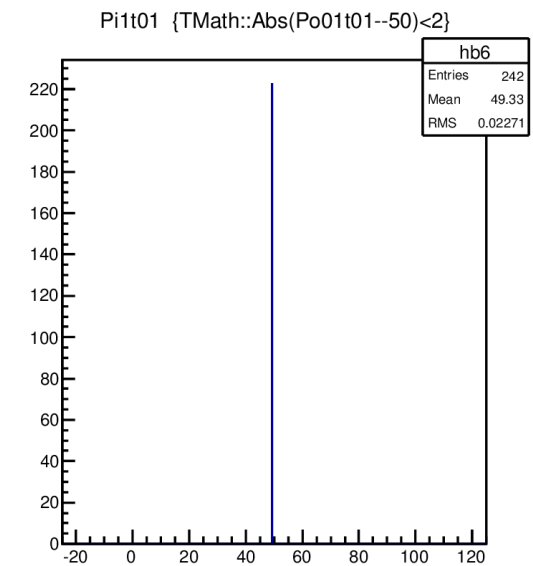
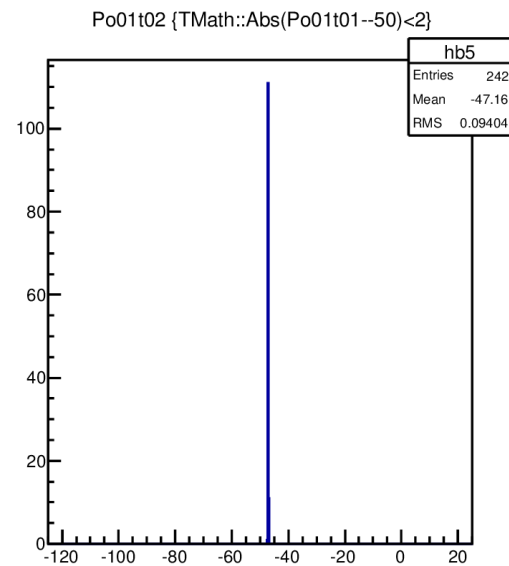
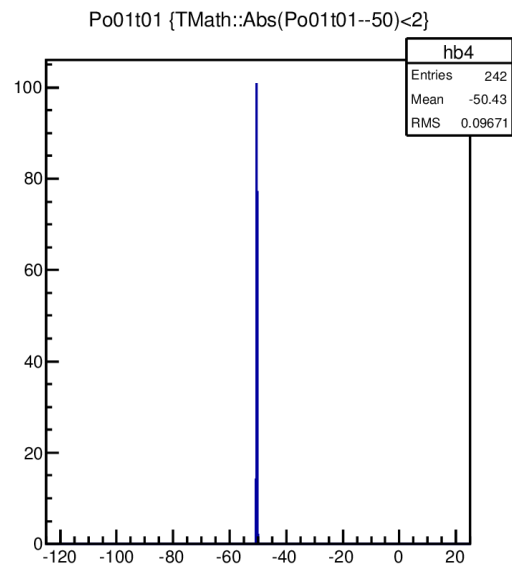
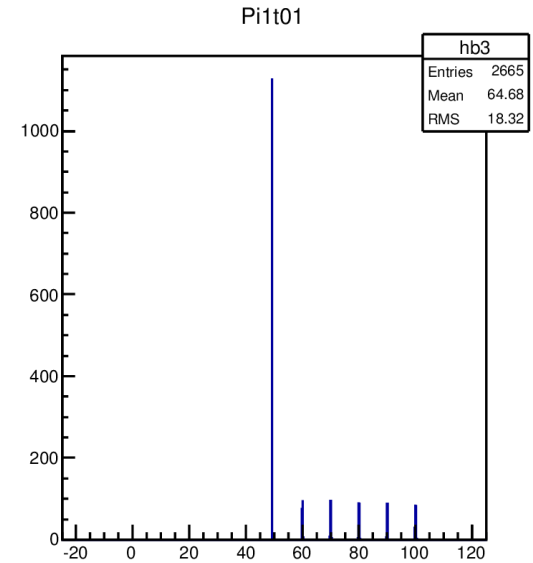
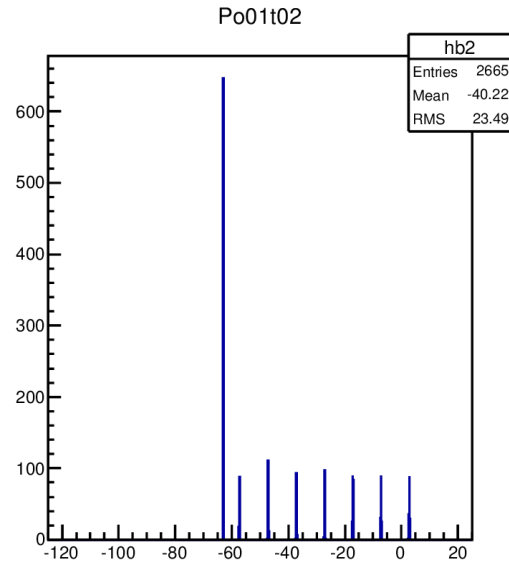
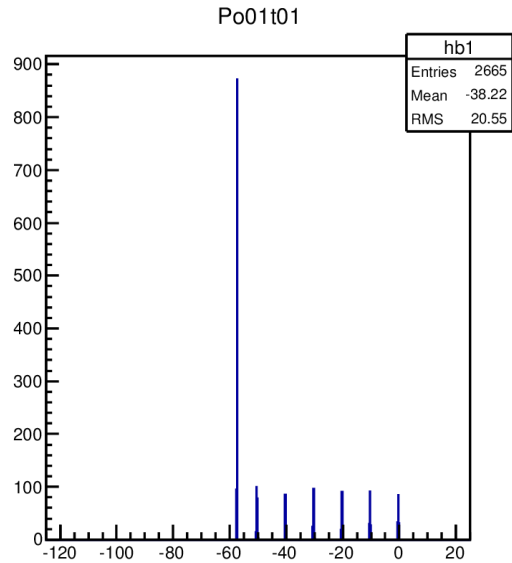
S245 TCAL: Cave B TDCs



~ 400 ps

Uh-oh?

S245 TCAL: Messhütte TDCs

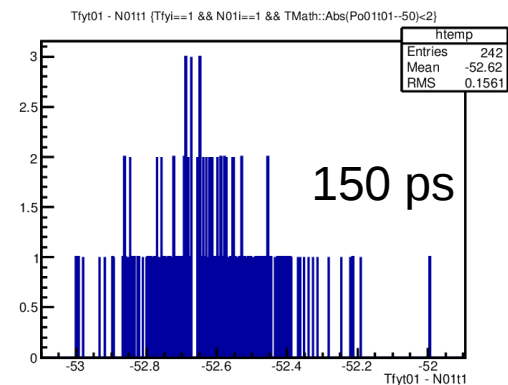
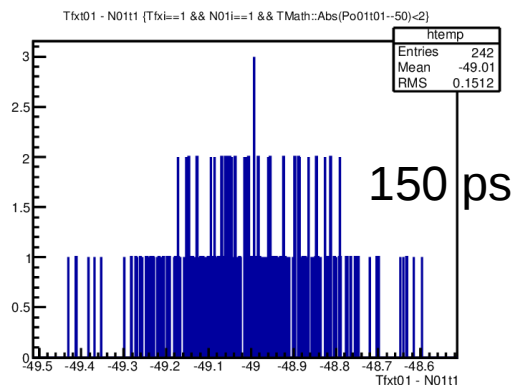
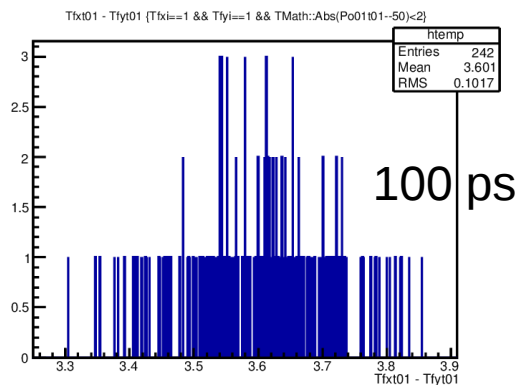


~ 100 ps

Problems found & diagnosed years after experiment...

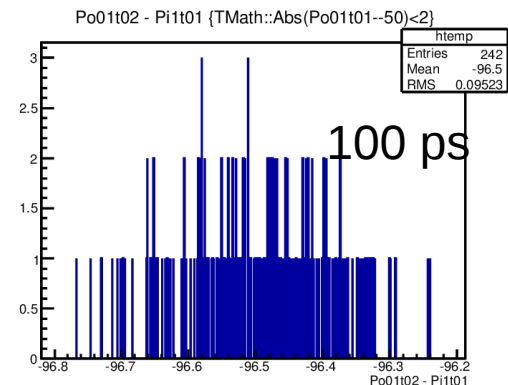
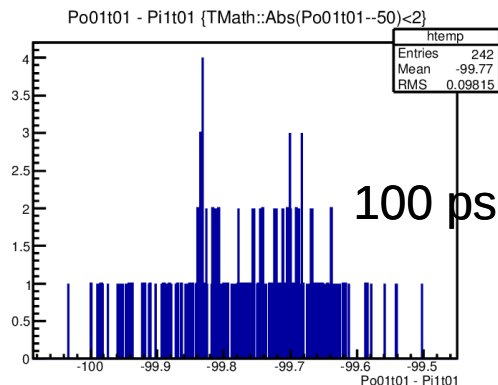
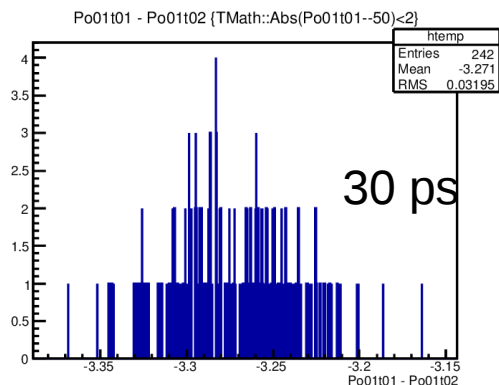
S245 TCAL: Cave B vs Messhütte TDCs

Cave B
vs
Cave B



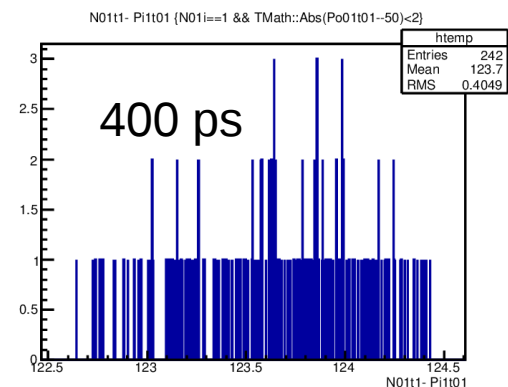
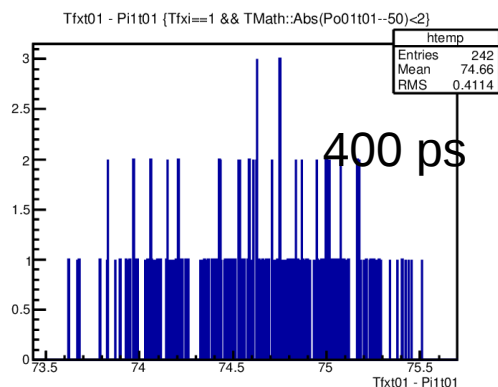
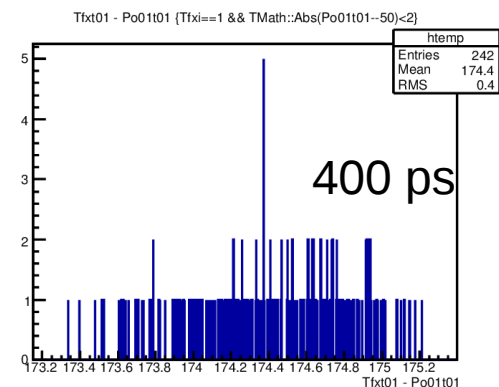
~ 150 ps

Messh.
vs
Messh.



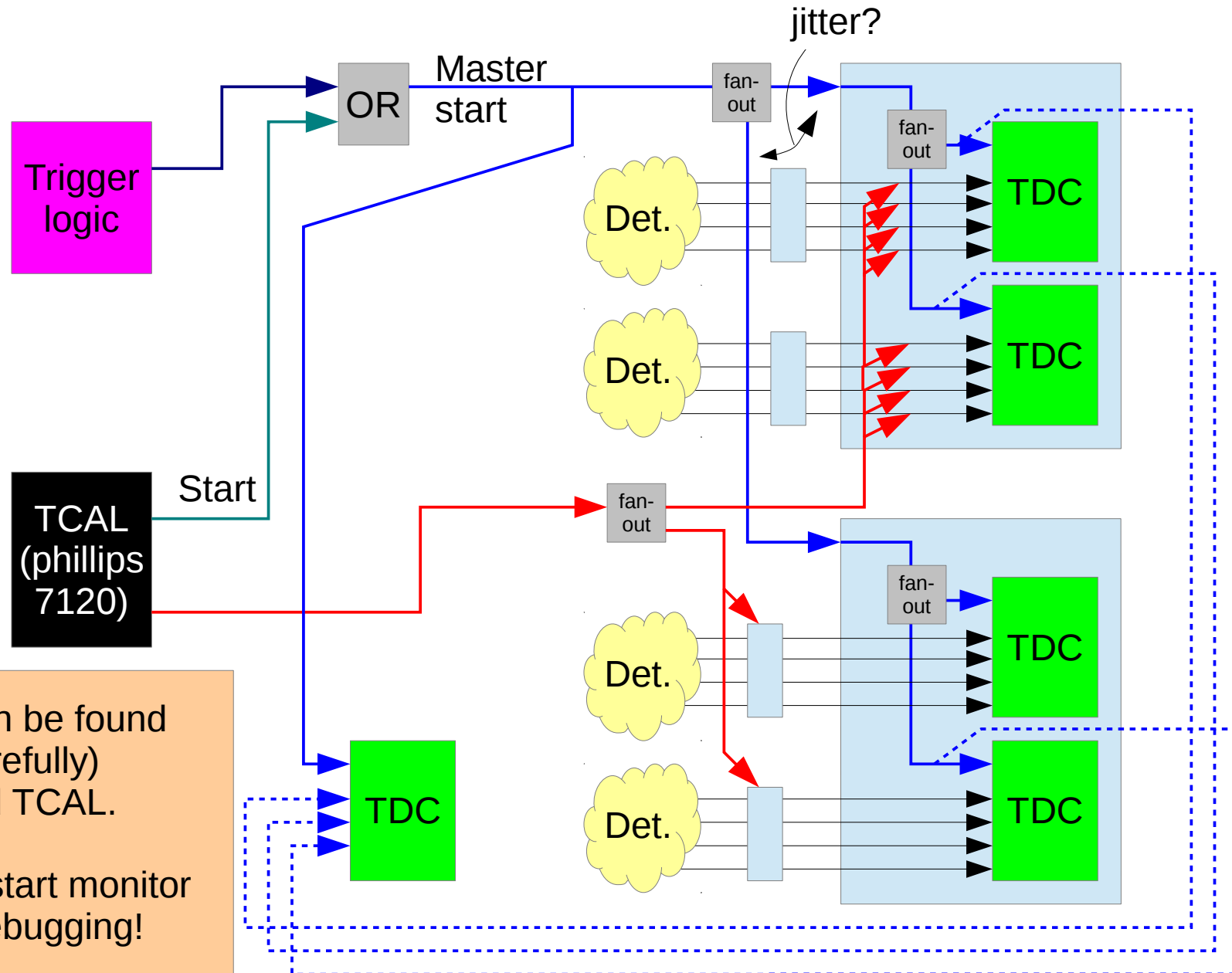
~ 100 ps

Cave B
vs
Messh.



~ 400 ps

Master Start & TCAL distrib. + monitor



Jitter can be found with (carefully) adjusted TCAL.

Master start monitor helps debugging!

Timing jitter – casualties...

- Typical LAND time res: 300 ps
- S245 master start distribution jitter: 400 ps
- One (some) bad module/connection:

→ **spoiling time-res of experiment**

→ **wasting much time for recovery attempts in analysis**

----- **has struck again... (S406?)** -----

Can be found. Before experiment:

 **IF the FULL DAQ is operational**

 **... well in advance!**

(if DAQ crew is fighting 'bigger' problems, we never get to this...)

We tried rather exotic means...