QC development

8 Feb 2024

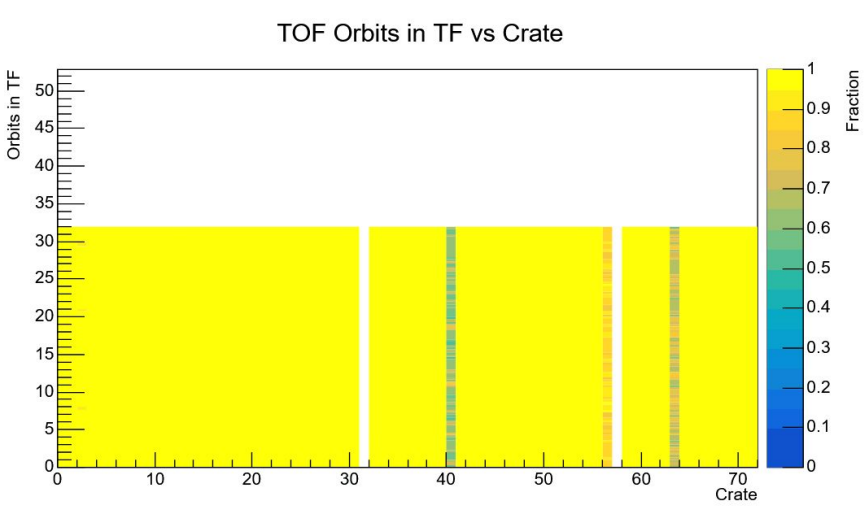
To do list during YETS

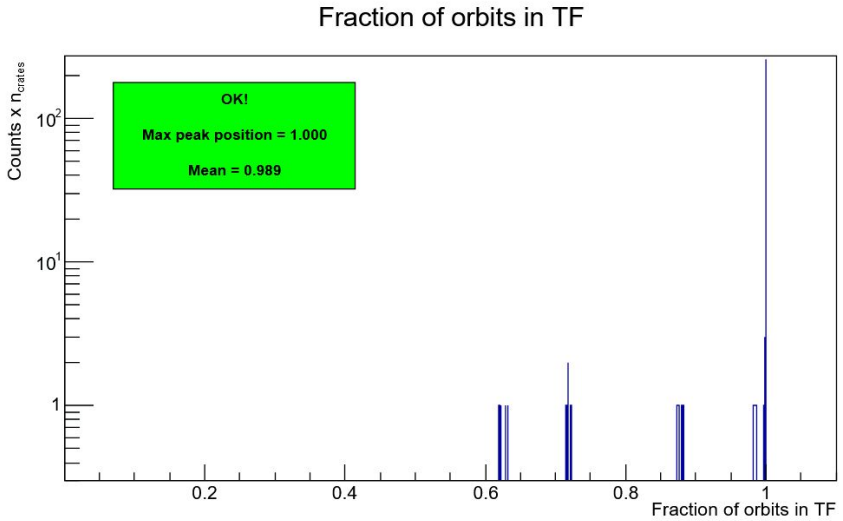
1. Fix Trending of collision rate **WIP**
2. Test moving window feature ✔
3. Start/Stop/Start issue → handled by QC Team ✔
4. Implement Trending (PostProcessing) tasks for:
   a. TOF total hit multiplicity ✔
   b. active channels ✔
   c. decoding (readout diagnostics) errors **WIP**
   d. lost orbits ✔ **to be tested**
5. Implement Trending tasks for Calibration objects ✔ **to be tested**
6. Comparison of TOF Hit Map with reference map **WIP**
7. Json and code clean-up → suggestions by QC team
8. Update shifter documentation

Monitor lost orbits

Adapt to recent changes in the data-flow: TOF compressors moved to EPNs → need to provide feedback if compressors crash

Monitoring of lost Time-Frames during the run + checker with threshold to call the oncall



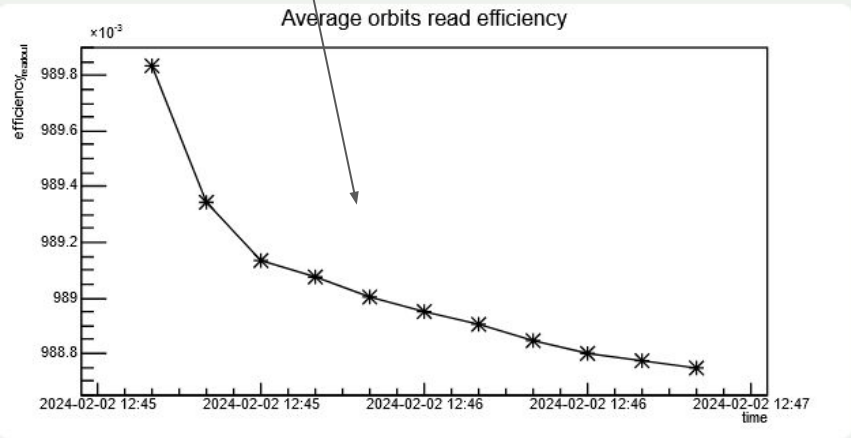


Monitor lost orbits

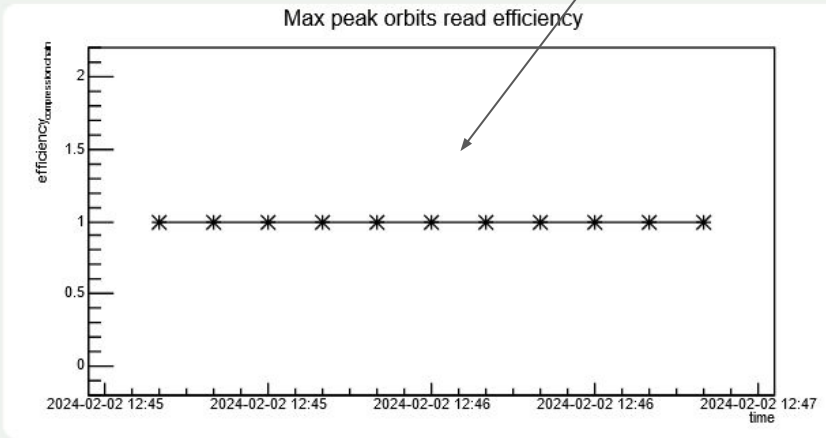
Adapt to recent changes in the data-flow: TOF compressors moved to EPNs → need to provide feedback if compressors crash

Monitoring of lost Time-Frames during the run + checker with threshold to call the oncall

Gives a measure of readout efficiency



Peak position at 1 means compressors chain fully efficient

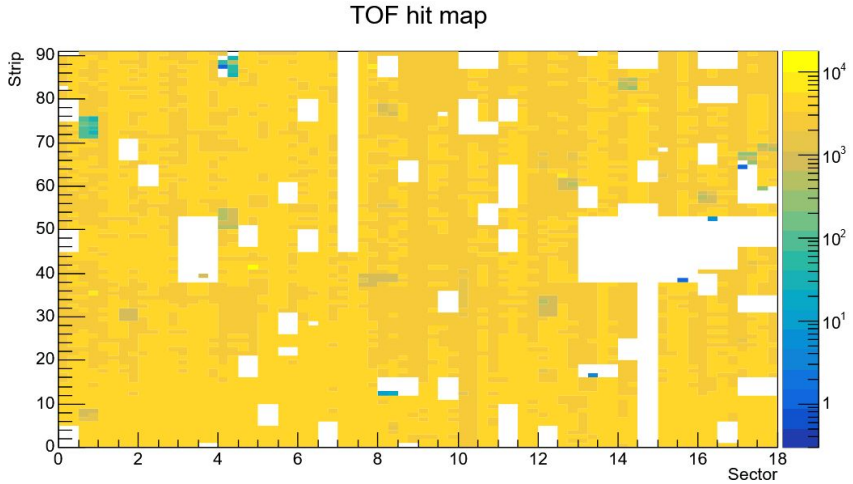


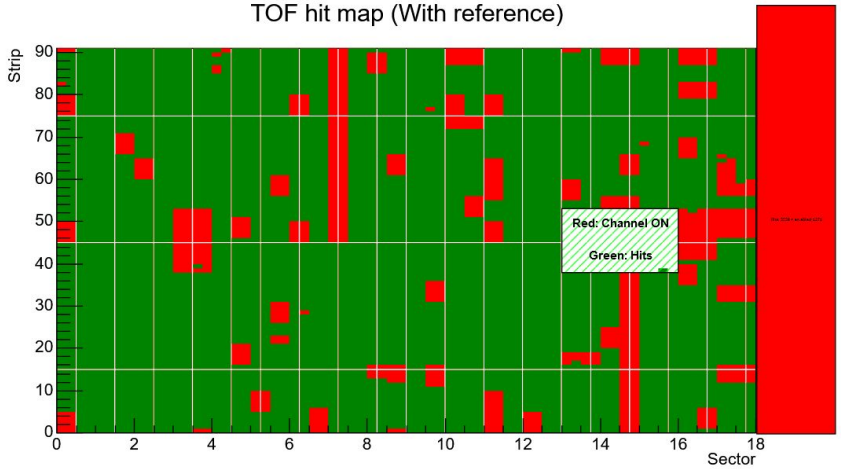
Reference map

What we have (NJ): binary map of TOF active channels over reference

I would propose to add also the opposite (i.e. reference over active map), this would spot for example if something is firing but not expected

We could put the checker on the binary map instead





Reductors

Central Trending task

TOF reductor (mean, sigma, entries and max peak of a TH1)

Switch to this configuration also for the Trening Hits (mean of TOF hits)?

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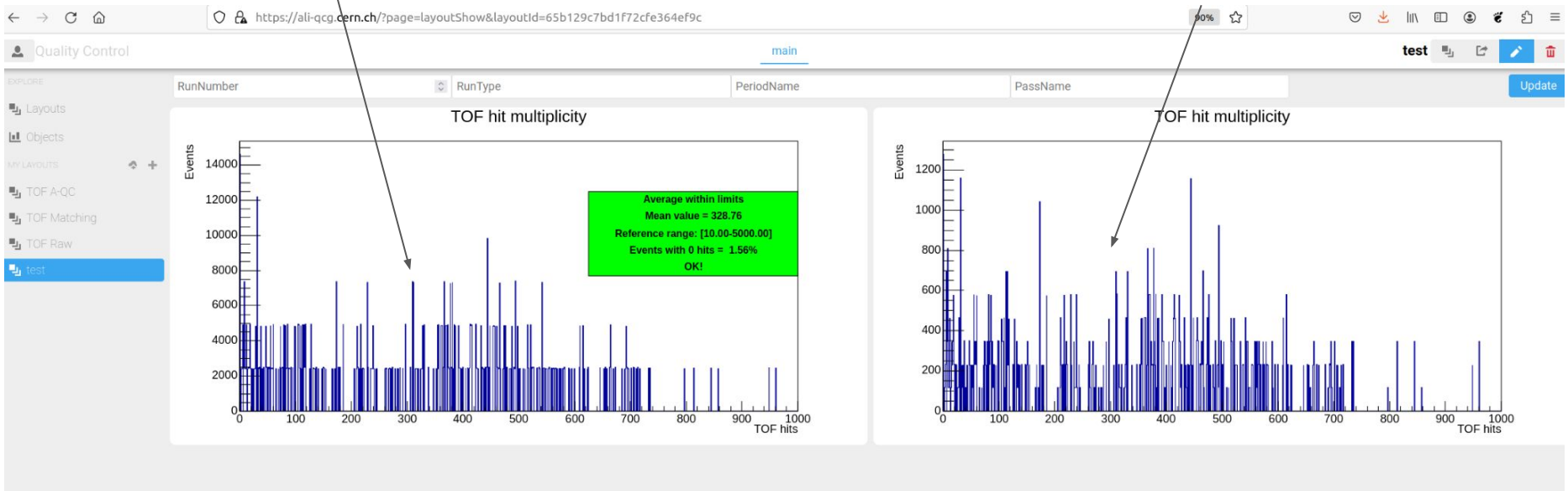
Backup

Moving window tested in production

Saves the object under a subfolder “mw”
Easy to adapt the trendings → change path of objects to trend

Integrated over the full run

Refresh at every cycle (60 sec)



Fix Trending Rate

Two PRs with potential fixes made the QC version v1.131 → not clear to me if the software upgrade of TODAY at P2 will include this QC version

Tested at P2 in SYNCH yesterday (Francesco e Francesca):

- if bkg == 0 → NO CRASH
- if bkg != 0 && sgn == 0 →NO CRASH
- if bkg != 0 && sgn != 0 → CRASH

Hopefully our fixed will solve this