

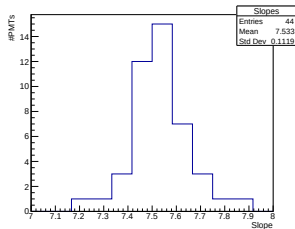
Weekly update

Tanguy Marsault

March 2, 2023

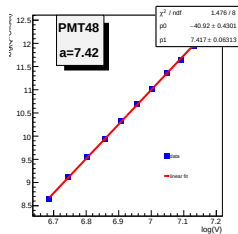
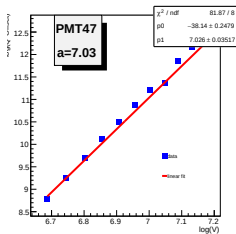
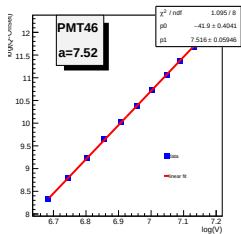
PMTs testing progress

- All 45 PMTs tested (already last week)



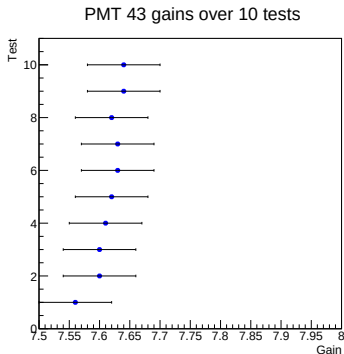
- Testing of some non irradiated PMTs (PMTs 46, 47, 48)
- Re-testing some PMTS a few times for statistics
 - 10 times for PMTs 5, 43, 23
 - Weird behaviour
 - PMT 26 does not work anymore (no signal at all)

Non irradiated PMTs



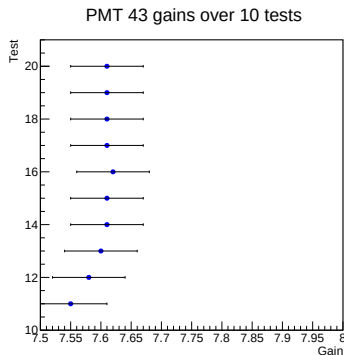
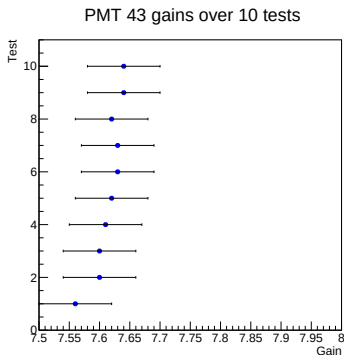
- Similar results than for irradiated PMTs
- PMT 47 not working so well, had no rubber cap when stored in the box

Re-tests PMT 43



- First gain value from first test was ~ 7.53
- Values here differ clearly
- Tests done in a row from 9.30 to 11.30 a.m
- Drift to higher values of gain over time
- Pure statistical effect ?
Temperature dependence ?
Other ideas ?

Re-re-test PMT43



- Same exact test the next day measuring temperature too
- Temperature ranged from 19° to 20°
- Exactly the same behaviour

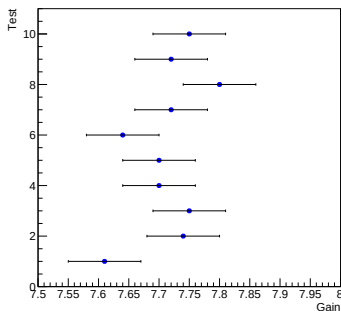
Conclusions

- PMT need a certain "time" before reaching its "normal" regime ?
- Add the range between $a_{\max}$ and $a_{\min}$ in the errors
- Need to do it for all PMTs
- Automatizing setup for this purpose (thanks to Louis)

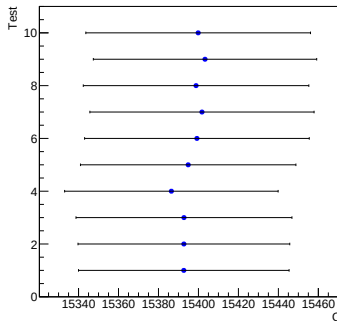
Backup

Re-tests PMT 5

PMT 5 gains over 10 tests



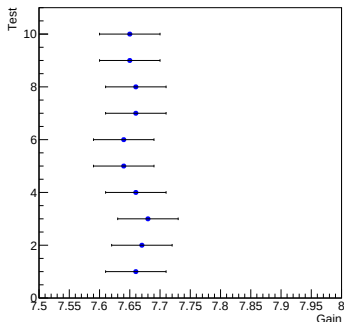
PMT 5 offsets over 10 tests



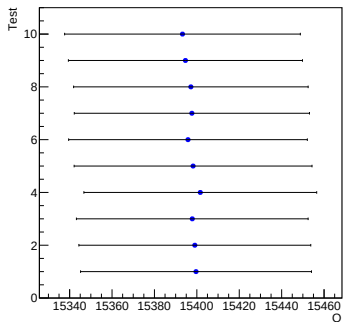
- Values differ clearly from initial value ~ 7.52
- First 5 done in the morning, last 5 done in the afternoon
- Offset stable, does not come from the QDC

Re-tests PMT 23

PMT 23 gains over 10 tests



PMT 23 offsets over 10 tests



- Values differ clearly from initial value ~ 7.53
- Tests done in the afternoon, in a row 1 to 4, interruption for ~ 30 min, in a row from 5-10
- Weird fluctuations, temperature dependence ?
- Offset stable, does not come from the QDC