

COMPASS TB: W45 has purity

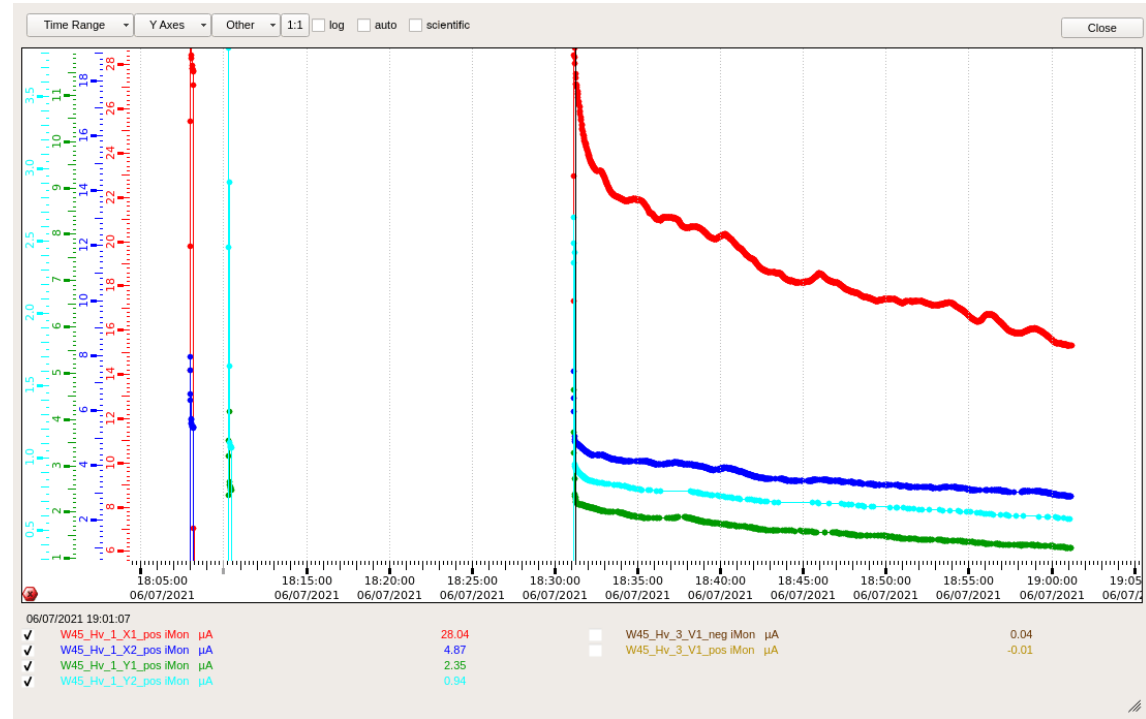
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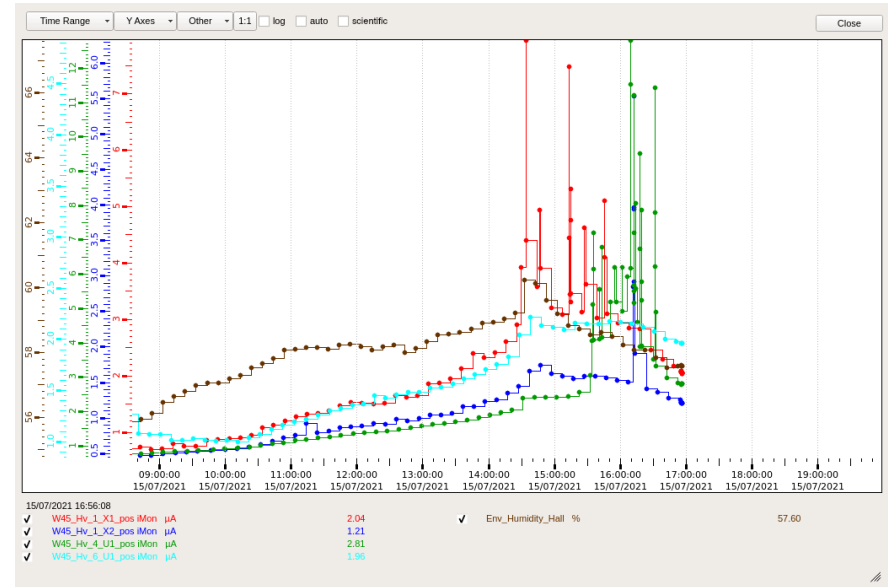
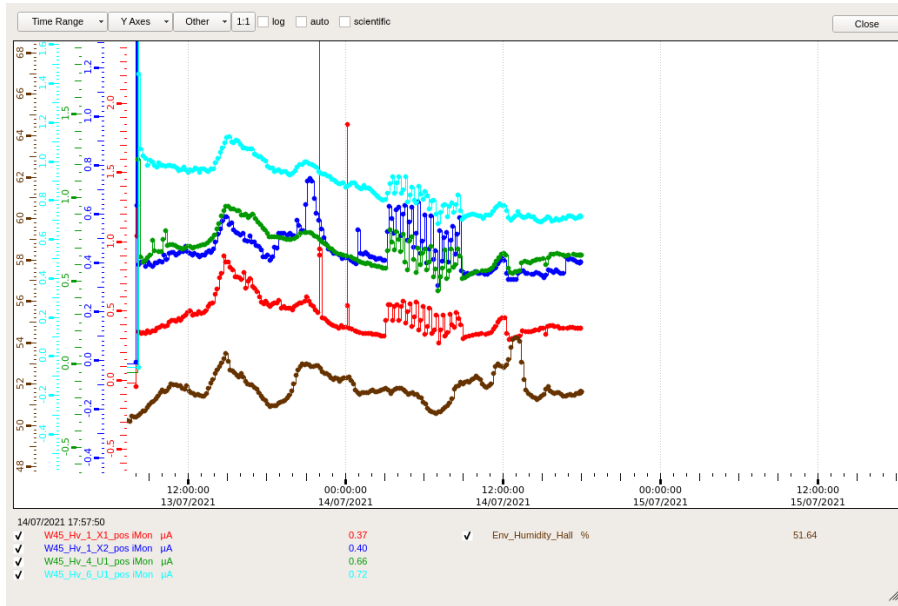
The problem

- Problem when rumping-up the voltages for the first time
 - More than a week to ramp-up
 - 50 μA limitation
 - Slow decrease with time
 - Not all channels are problematic



The problem

- Correlation with humidity found



The not understood behaviour

Increasing flux did not changed behaviour

- 13 July 2021
- Comment

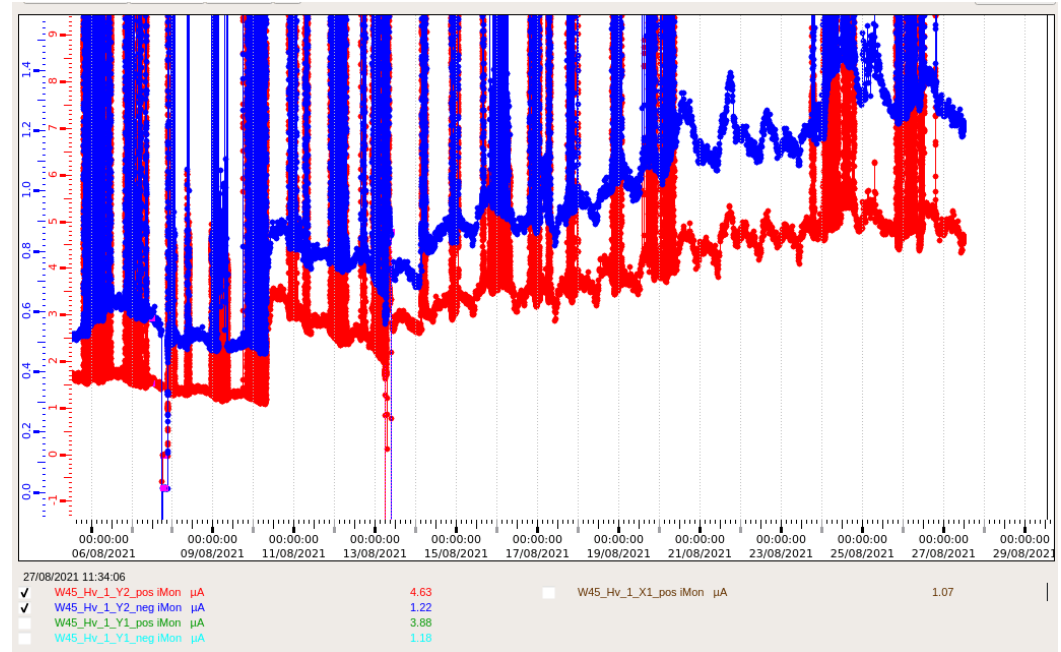
“Few days ago i was not able to rump-up the detector from off to on whithout being in small steps. Currents were increasing till 100uA. Yesterday night there was a cut in CF4 supply and shift crew switched off the detector.

In the morning i switch everything on and the detector went to nominal voltges with currents $< 5\mu\text{A}$ while ramping-up.

No idea why the problem got improved. Also Station1 was the worst case and know has the same current level like the other ones ($<0.5\mu\text{A}$).”

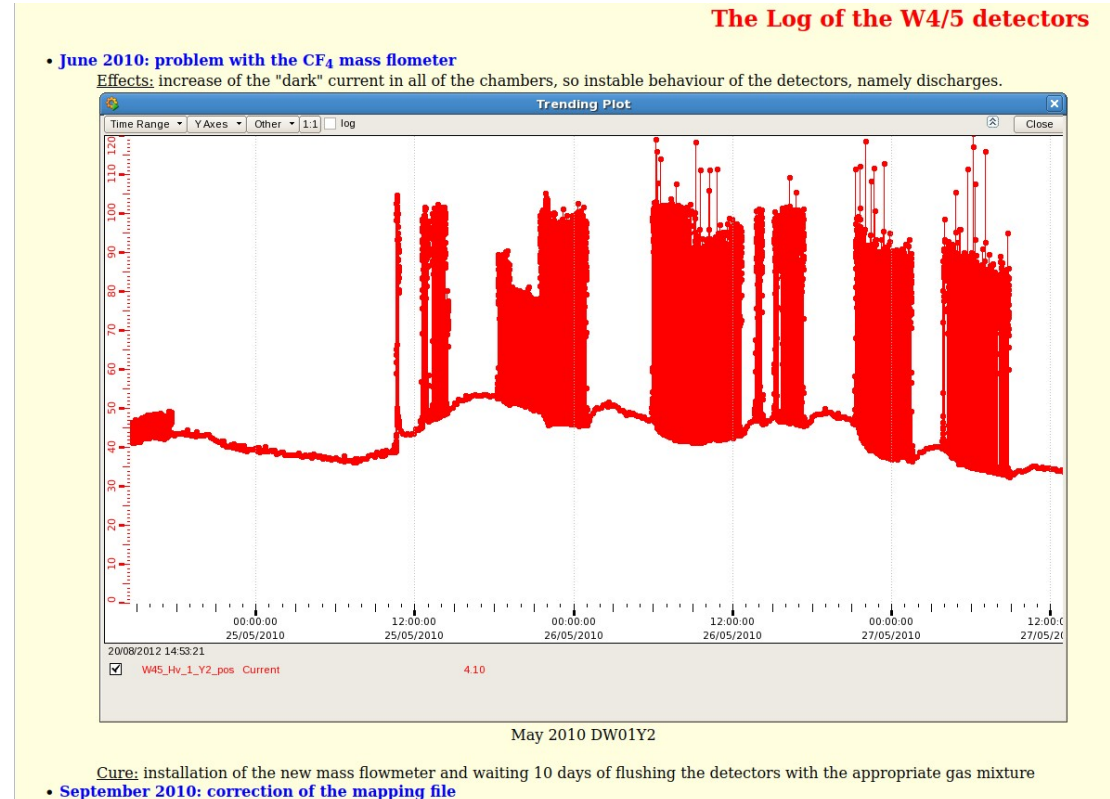
The not understood behaviour

- August 2021
- Huge O2 contamination found in DW04 and DW05
- No correlation with humidity



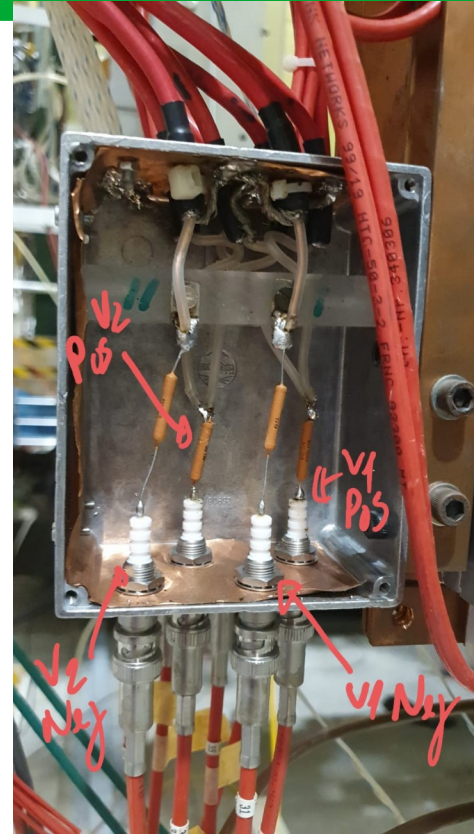
Possible explanation?

- Google pointed me an old W45 page
 - Link not in COMPASS webpage
 - https://wwwcompass.cern.ch/compass/detector/w45/new_page/log/log.html



Station3 V2 recovery

- Possible wire short-circuit
 - But can also be outside
 - Not possible to investigate in due time
 - Need to open the HV distribution...
 - No idea how it is done. No documentation.
 - HV channels and cool channels swapped (V1-V2)
 - In worst scenario chamber as to be opened



Acknowledgments

- THANK YOU SO MUCH TO:
 - Christophe
 - Vincent
 - Fulvio