



#### ECOgas weekly meeting Weekly shift report

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#### **Overview**



- System status
- Stability run over the past week
- Issues with ATLAS-small, SHiP and EPDT
- Source OFF scan
- Conclusions

#### **System status**



- System is currently flushing with ECO2 gas mixture
- Aging suspended on Tuesday due to works on the irradiator (see later)
- Currently source is off due to ongoing DSO test at GIF++ and veto on the irradiatior
- Aging will resume as soon as source is back ON
- News from the GIF++ facility:
  - New gas system almost ready, needs only the grounding of the detection head for flammable gas
  - Safety inspection of the setup around April 20<sup>th</sup>
  - Need to participate in ATEX and F-gases training classes for all people who will operate on the gas system

## Stability runs during the week



- Stability run id151: stopped to lower SHiP HV
- Stability run id152: with SHiP at 5 kV
- Stability run id153: with SHiP excluded
- Stability run id155: with SHiP at 5 kV and new HV slot in CAEN mainframe
- Stability run id156: test run only with SHiP chamber at 7.5 kV
- Short runs and with some special conditions

#### **Issues with SHiP chamber**



- During the stability scan a few "bumps" where current increased and then went down were observed
  - $\rightarrow$  Not correlated with source change or other parameters

 $\rightarrow$  Occurrence frequency was monitored and it was decided to lower the HV to 5 kV to observe if those bumps still appeared

 $\rightarrow$  Change of HV slot and cable to see if they were correlated with the cable



- Bumps are still there, now source off HV scan has been performed with the old cable but in the new slot
- On Grafana, "ShiPtemp" panel to monitor the behavior of SHiP chamber

### **ATLAS-small and EPDT**



- ATLAS-small chamber was removed from the trolley a couple of weeks ago due to very fluctuating currents
- Was fixed in the lab by Barbara and Alessandro and re-installed yesterday (5/04/2023) in the bunker
- Last night I tried a source off scan but the chamber was discharging  $\rightarrow$  Issue with the HV cable, swapped and now it is working fine

- EPDT chamber removed from the trolley, now in the lab to investigate the cause of high currents
- Rotameter was left open, now closed and other detectors are flushing a little more than usual

#### **Source off scans - 5<sup>th</sup> April**





#### **Source off scans - 5<sup>th</sup> April**





#### **Source off scans - 6<sup>th</sup> April**





#### **Source off scans - 5<sup>th</sup> April**





#### Conclusion



- Not much integrated charge in the week due to irradiator maintenance
- Humidity was stable
- ATLAS chamber is back on the trolley and it is working again, so it can be included in the aging
- EPDT chamber under investigation
- Strange behavior of SHiP chamber to be investiggted
- HFO total used liters ~ 1000 L

# **Currents during source test**

- There was an issue with the source ON/OFF procedure which has been fixed by the source company
- To test they had to switch ~200 times between source OFF and ON
- Chambers kept on for half a day and had many spikes in the absorbed current, due to the source switching
  - $\rightarrow$  Eventually they were switched off to avoid damaging

