

GIF++ status update

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SM1-M40

- Ar+5%CO₂+2%iC₄H₁₀
- Flux ~32 l/h
- RH ~8%

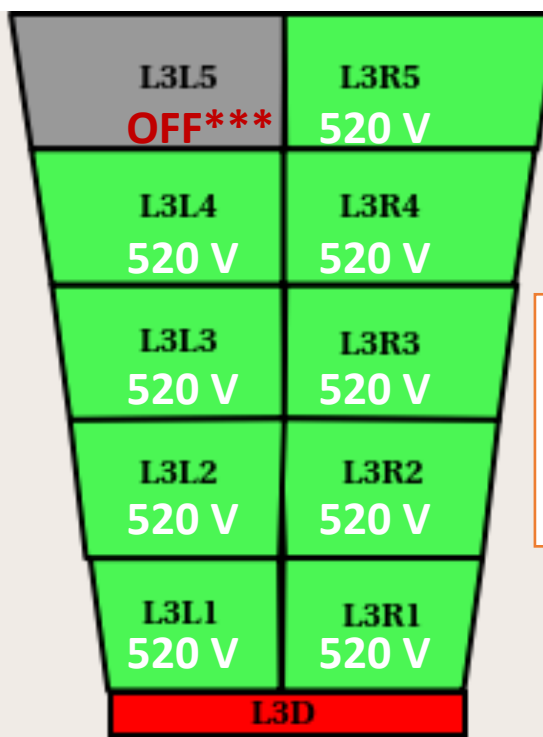
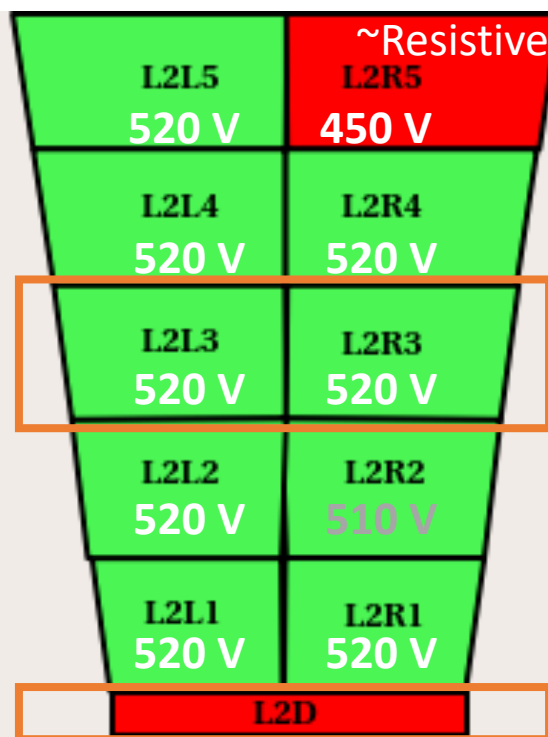
| SM1 | | | | |
|------|---------|-----------|--|--|
| L1L1 | 520.0 V | 1.197 uA | | |
| L1R1 | 520.0 V | 1.196 uA | | |
| L1L2 | 520.1 V | 1.553 uA | | |
| L1R2 | 520.0 V | 1.721 uA | | |
| L1L3 | 520.0 V | 3.592 uA | | |
| L1R3 | 520.0 V | 3.530 uA | | |
| L1L4 | 520.0 V | 4.367 uA | | |
| L1R4 | 520.0 V | 5.283 uA | | |
| L1L5 | 200.0 V | 22.854 uA | | |
| L1R5 | 350.1 V | 33.116 uA | | |

CURRENTLY POWERED CHANNELS

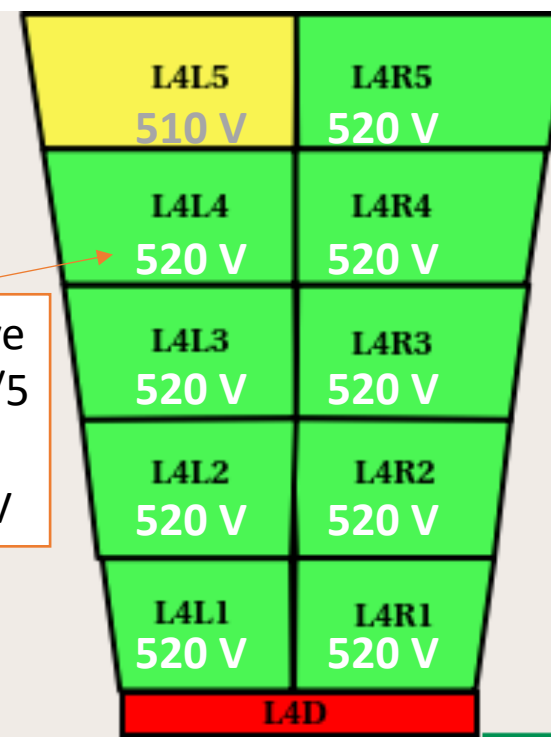
| | | |
|------|---------|----------|
| L2L3 | 520.0 V | 2.849 uA |
| L2R3 | 520.0 V | 3.168 uA |

| | | |
|-----|---------|----------|
| L1D | 240.1 V | 0.603 uA |
| L2D | 240.1 V | 0.202 uA |

| HV range | # of HV sectors |
|-------------------------|-----------------|
| $HV = 520 V$ | 34/40 (85%) |
| $500 V \leq HV < 520 V$ | 2/40 (5%) |
| $450 V \leq HV < 500 V$ | 1/40 (2.5%) |
| $HV < 450 V$ | 1/40 (2.5%) |
| OFF | 2/40 (5%) |



Resistive since 2/5
7 uA @520V



* Tested the channel -> shows resistive behaviour: 68.5 uA at 520V at attenuation 1 (neighbour with 10.5 uA)
 ** Tested the channel -> shows resistive behaviour: ~60 uA at 520V at attenuation 1 (was 10.5 uA before switching)
 *** Tested the channel -> shows resistive behaviour: ~80 uA at 520V at attenuation 1 (neighbour with 13.9 uA)

SM1-M40

- Ar+5%CO₂+2%iC₄H₁₀
- Flux ~33 l/h
- RH ~8%

| | | |
|-------------|--------|-----|
| Humidity-In | 7.739 | % |
| Flow-In | 32.807 | L/h |
| Flow-Out | 32.947 | L/h |

- Comparison with values before the test beam:
- ~20% of the previous current for PCB-1 and 2
- ~27% of the previous current for L1 PCB-3
- ~24% of the previous current for L2 PCB-3
- Almost equal fraction of current for L1 and L2
- Almost equal fraction of current for the 2 sides
- Larger difference for the PCB-4, probably due to different exposure to the source in the new position
- Ratio between different layers:
 - L2L3/L1L3 = 90.1% (05/24) and 79.4% (08/24)
 - L2R3/L1R3 = 99.3% (05/24) and 89.8% (08/24)

| HV Channel | Current (uA) 05/24 | Current (uA) 08/24 | Ratio (%) |
|------------|--------------------|--------------------|-----------|
| L1L1 | 5.47 | 1.20 | 21.9 |
| L1R1 | 5.87 | 1.20 | 20.4 |
| L1L2 | 8.23 | 1.55 | 18.8 |
| L1R2 | 8.72 | 1.72 | 19.7 |
| L1L3 | 12.85 | 3.59 | 27.9 |
| L1R3 | 13.35 | 3.53 | 26.4 |
| L1L4 | 15.92 | 4.37 | 27.4 |
| L1R4 | 15.82 | 5.28 | 33.4 |
| L1L5 | 22.4 (@200V) | 22.8 (@200V) | 101.8 |
| L1R5 | 34.6 (@350V) | 33.1 (@350V) | 95.7 |
| L2L3 | 11.58 | 2.85 | 24.6 |
| L2R3 | 13.26 | 3.17 | 23.9 |



News from P1

- Now multiple sectors with higher HV:
- A06 from 505 V to 510 V
- A08 from 505 V to 510 V
- C02 from 505 V to 510 V
- C10 from 505 V to 510 V
- C16 from 510 V to 515 V
- A12 SM1-HO from 510 V to 515 V
- A12 SM1-IP and SM2s from 505 V to 510 V

Larger cluster charge expected, as measured from C16 and A12 HV previous increase

More sectors will follow probably.. Good start at least

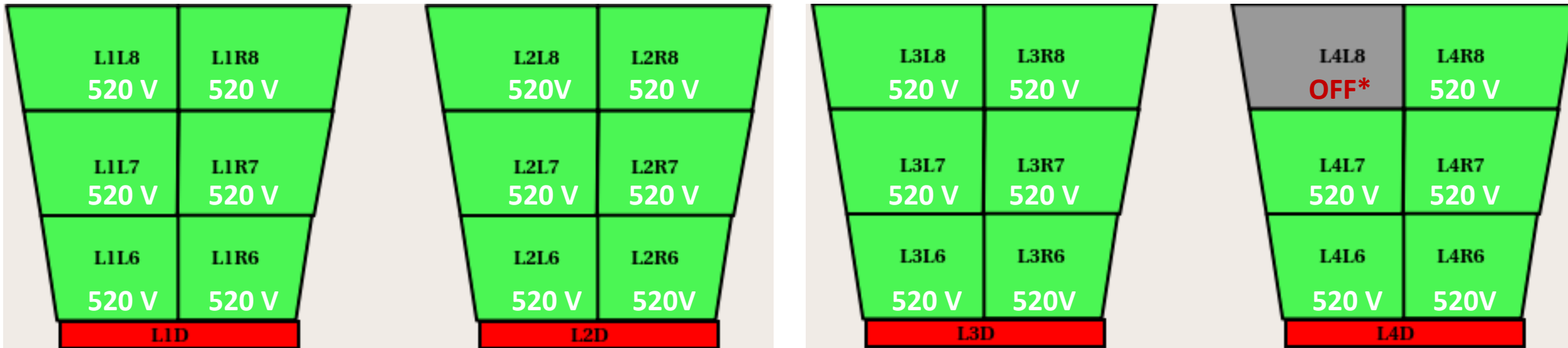


Back-up

LM2-M40

- Ar+5%CO₂+2%iC₄H₁₀
- Flux ~33 l/h
- RH ~8%

| HV range | Number of HV sectors |
|---------------------------------------|----------------------|
| $HV = 520\text{ V}$ | 23/24 (95.1%) |
| $500\text{ V} \leq HV < 520\text{ V}$ | 0/24 (0%) |
| $450\text{ V} \leq HV < 500\text{ V}$ | 0/24 (0%) |
| $HV < 450\text{ V}$ | 0/24 (0%) |
| OFF | 1/24 (4.2%) |

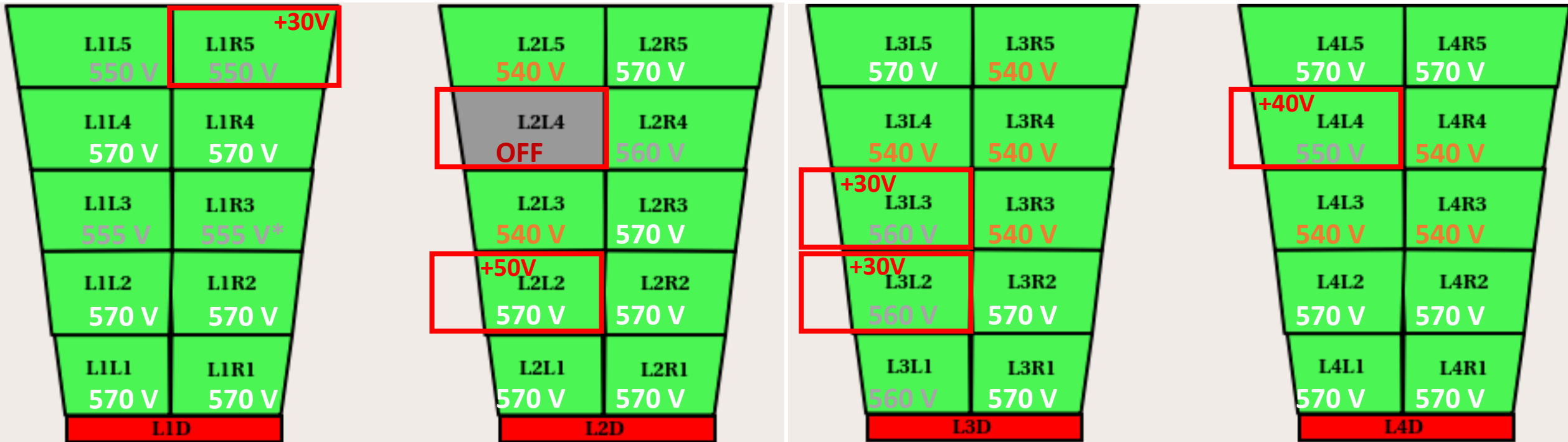


* Tested the channel -> shows resistive behaviour: 58.7 uA at 520V at attenuation 1 (neighbour with 17.2 uA)

SM1-M35

- Ar+7%CO₂
- Flux ~22 l/h
- RH ~7%

| HV range | Number of HV sectors | After Argon treatment |
|-------------------------|----------------------|-----------------------|
| $HV = 570 V$ | 20/40 (50%) | 21/40 (52.5%) |
| $550 V \leq HV < 570 V$ | 5/40 (12.5%) | 9/40 (22.5%) |
| $500 V \leq HV < 550 V$ | 14/40 (35%) | 9/40 (22.5%) |
| $HV < 500 V$ | 0/40 (0%) | 0/40 (0%) |
| OFF | 1/40 (2.5%) | 1/40 (2.5%) |

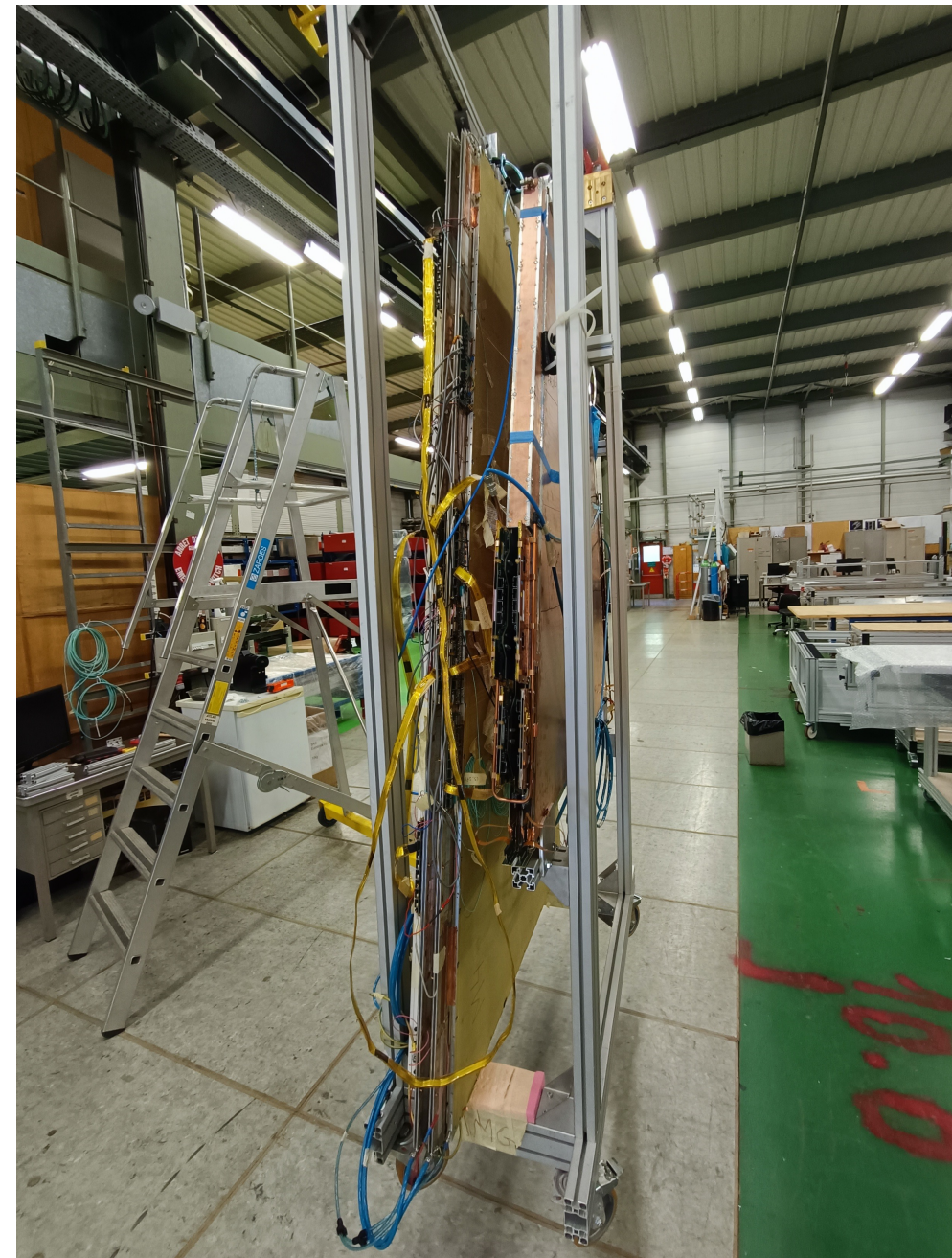


*Recurring trips

Sectors treated in Argon in April

News

- Installed SM1-M40 trolley back into the bunker, far from the source
- sTGC chamber mounted on the same trolley, on the back of the SM1 detector
- Installed new copper gas line for the delivery of the sTGC gas mixture CO₂-n-pentane



News

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