

EEE Run Coordination Meeting - november 8th 2017

Building of the MRPC for CARI01

Flow test

Spreadsheet for the duration of gas tank



Liceo Scientifico di Cariati

Our experience: Extremely Exciting Experience

European Organization for Nuclear Research
Organisation européenne pour la recherche nucléaire



385

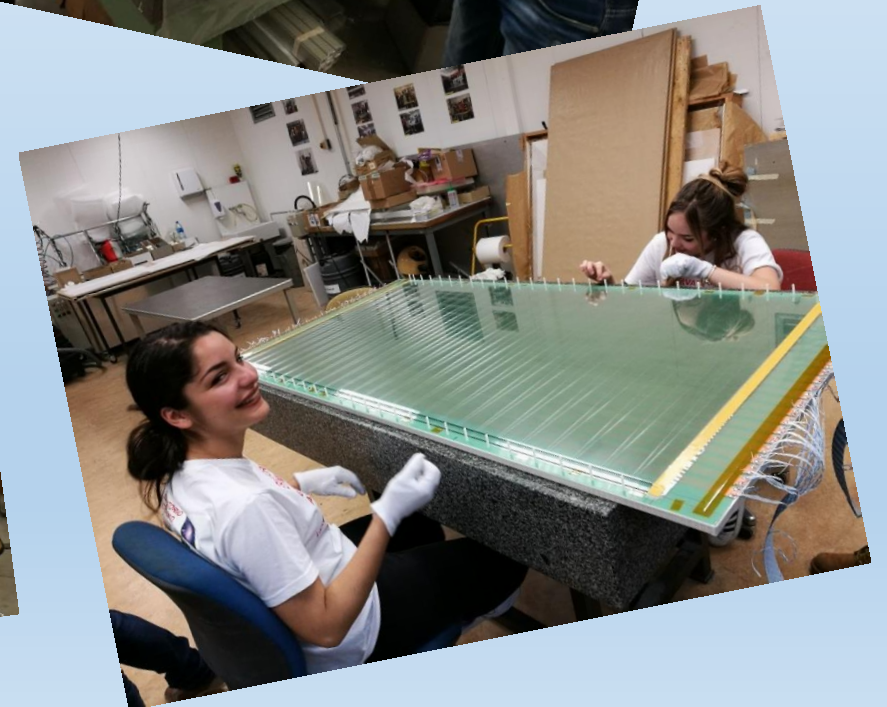
33

RECEPTION

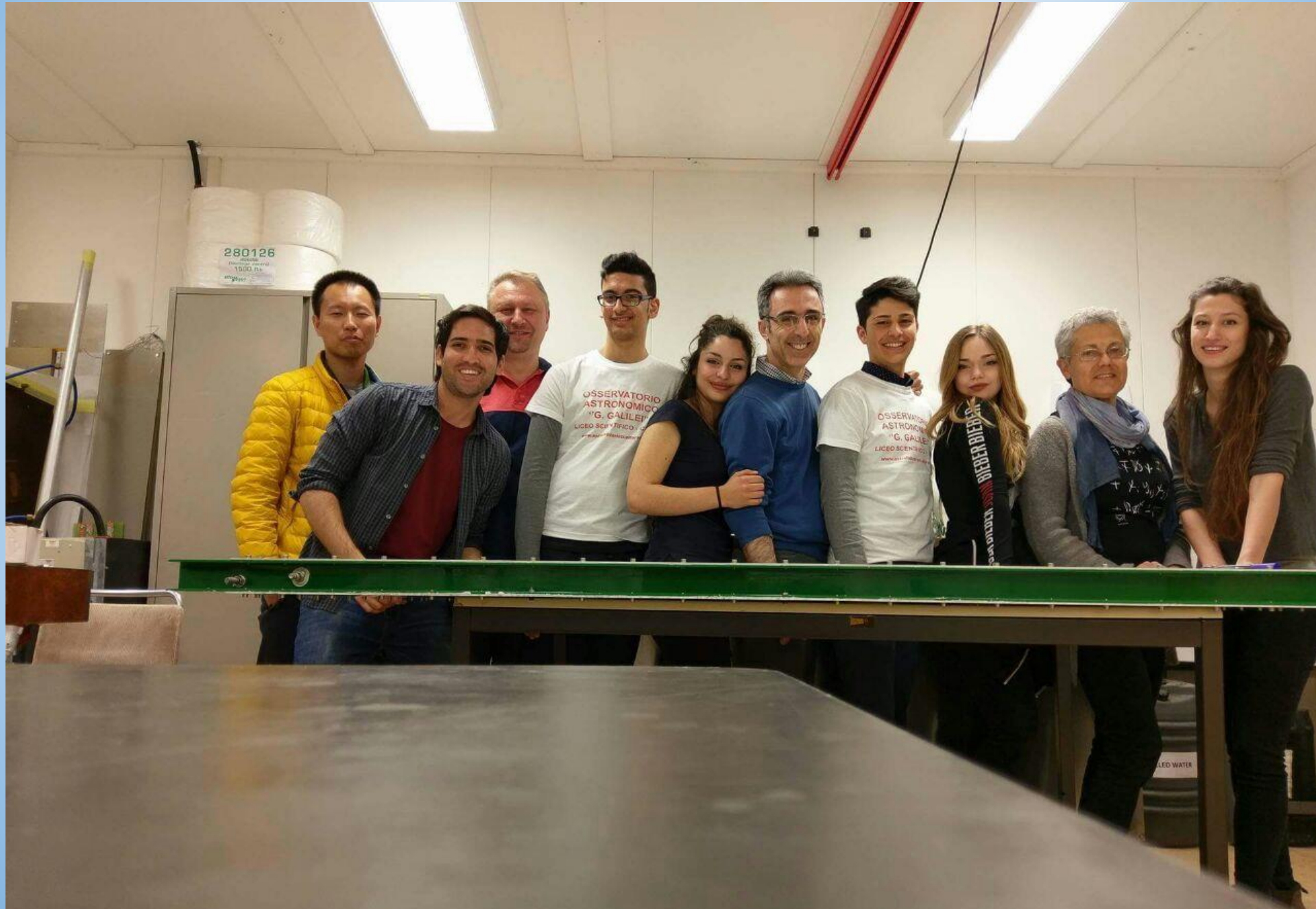
Our experience at CERN for the
building of the MRPC
(Multigap Resistive Plate Chambers)
for the Cosmic Rays Telescope
from the
EEE (Extreme Energy Events) project
The science in schools



Some work steps at CERN april 24th - 28th 2017



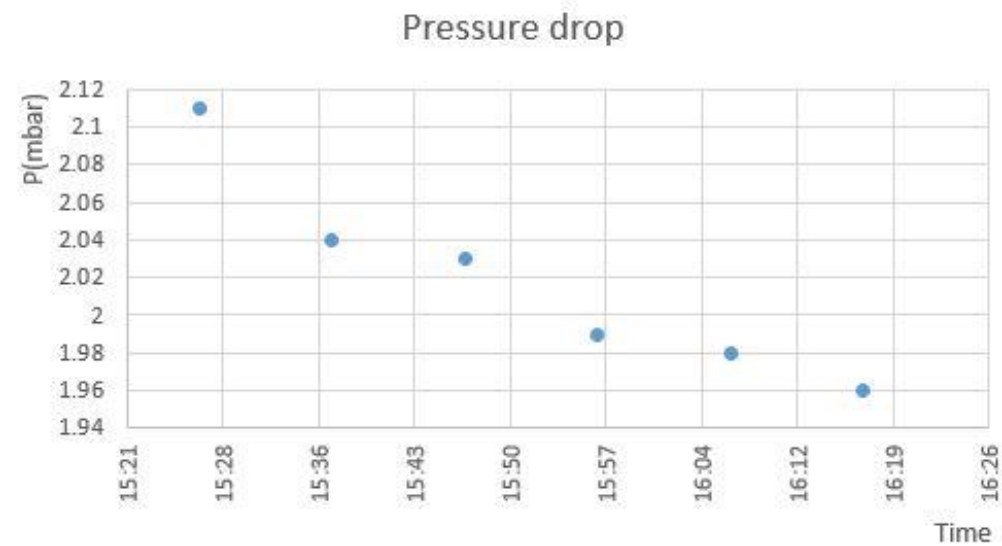
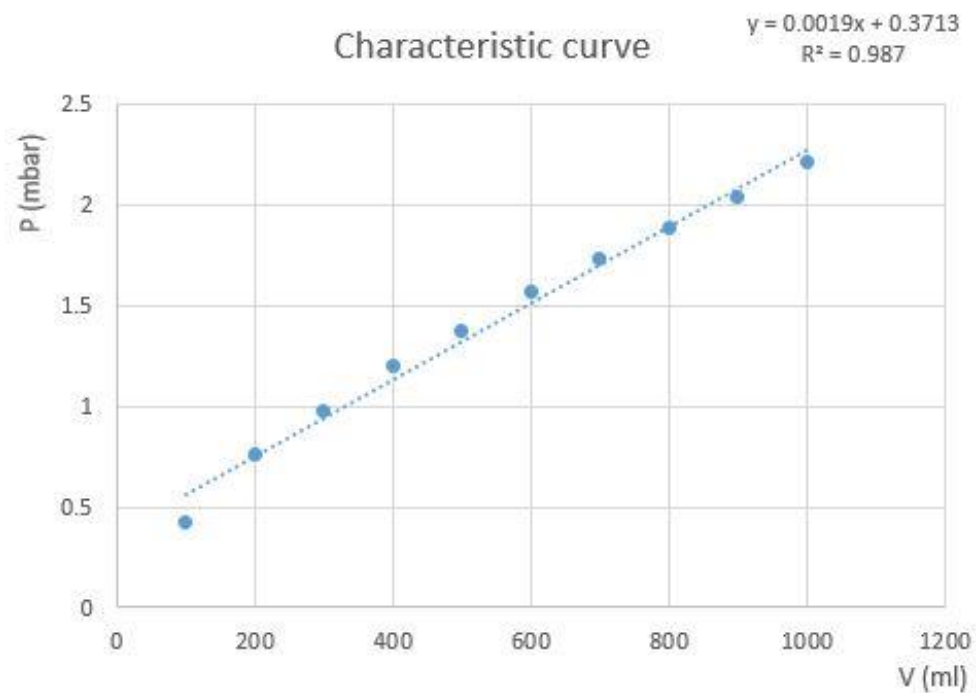
Our international work team



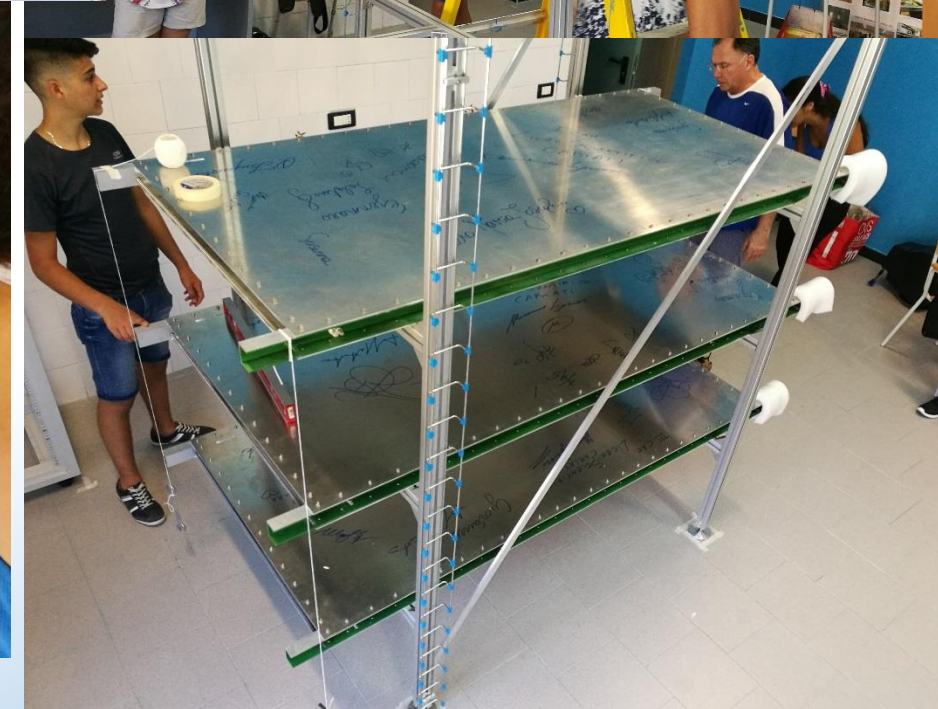
FLOW TEST



Sealing gas test for the chambers



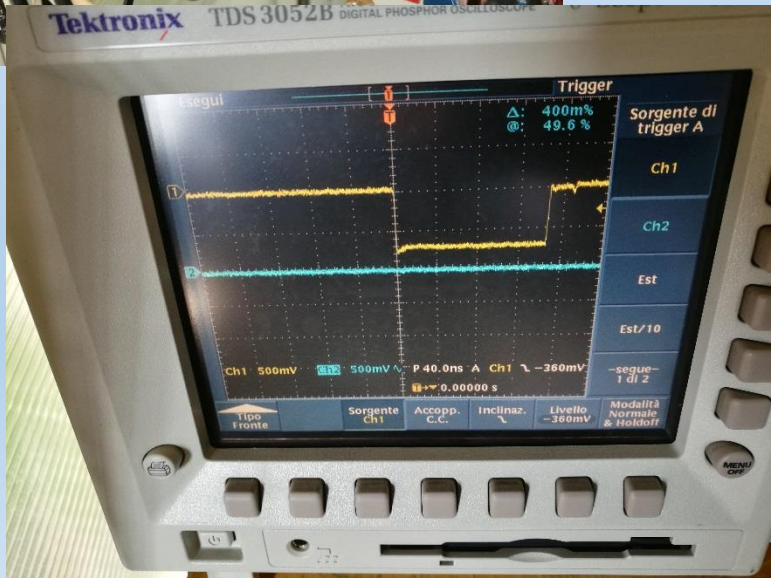
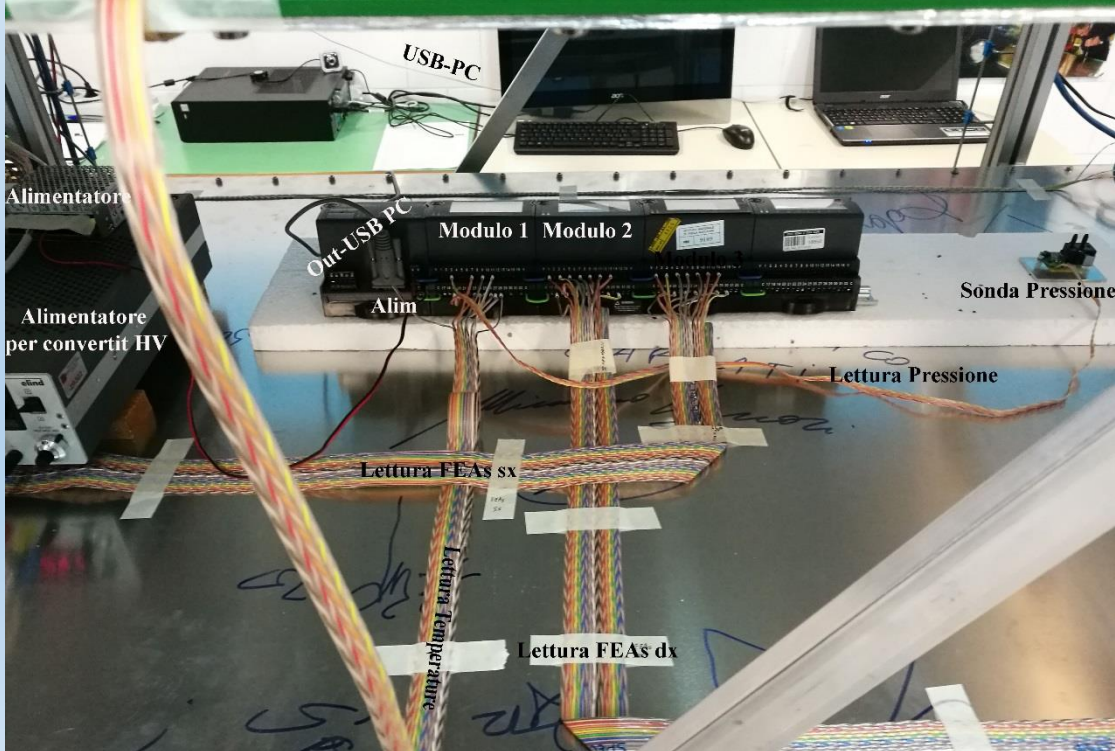
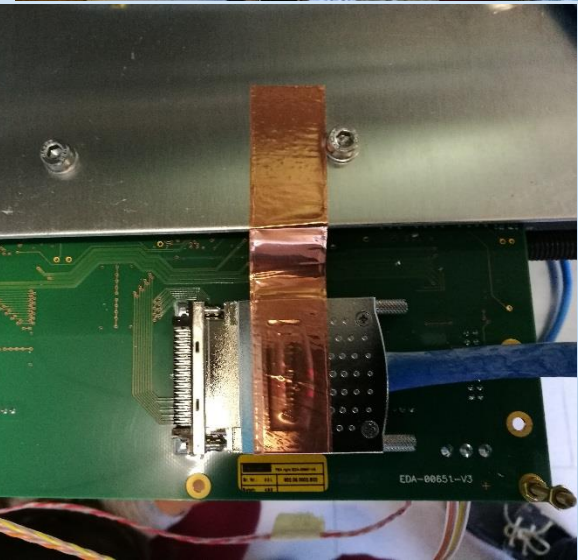
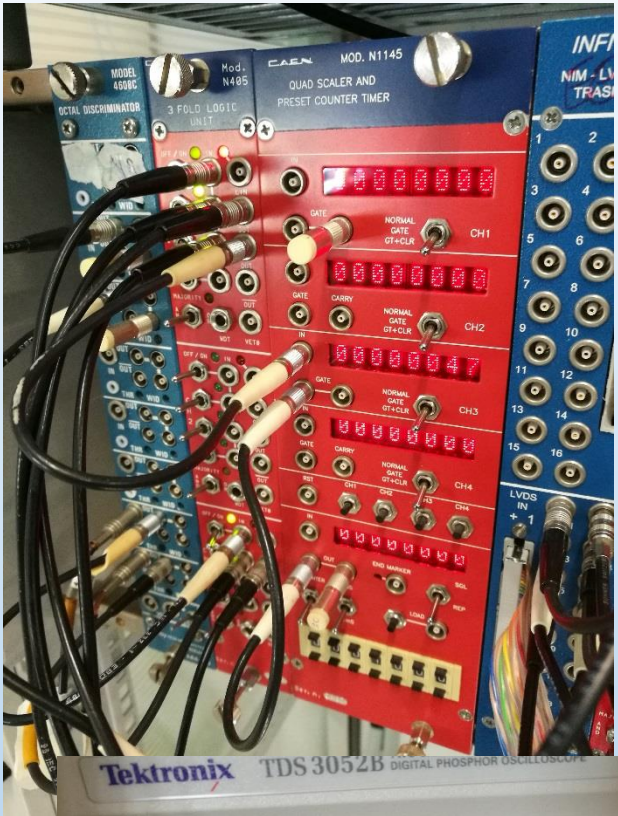
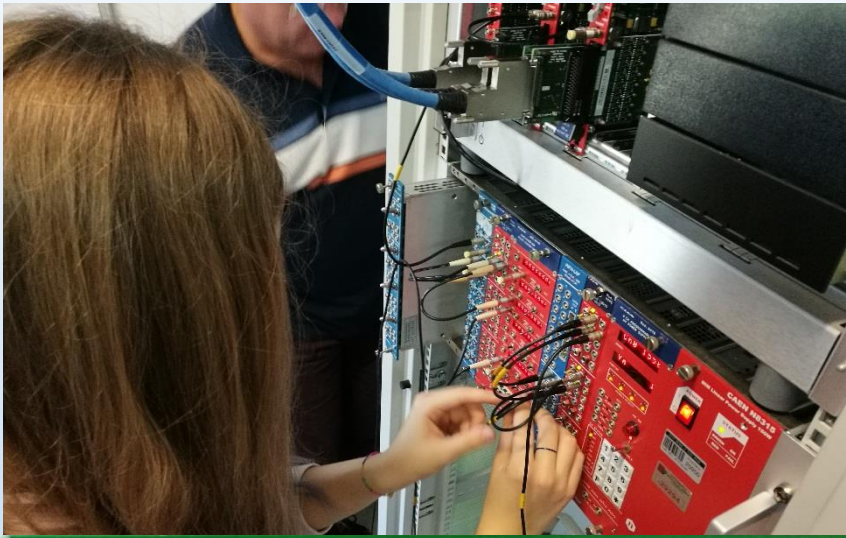
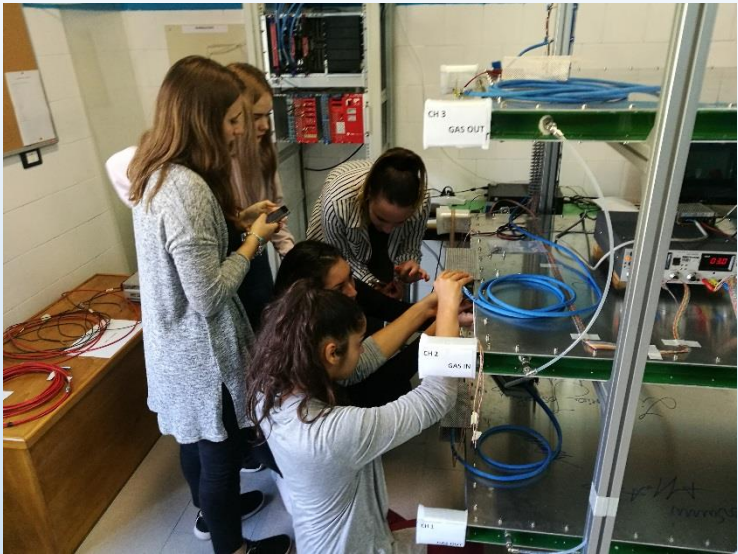
The telescope arrival in the headquarter and first step of mounting-wiring: august 8th- 9th 2017



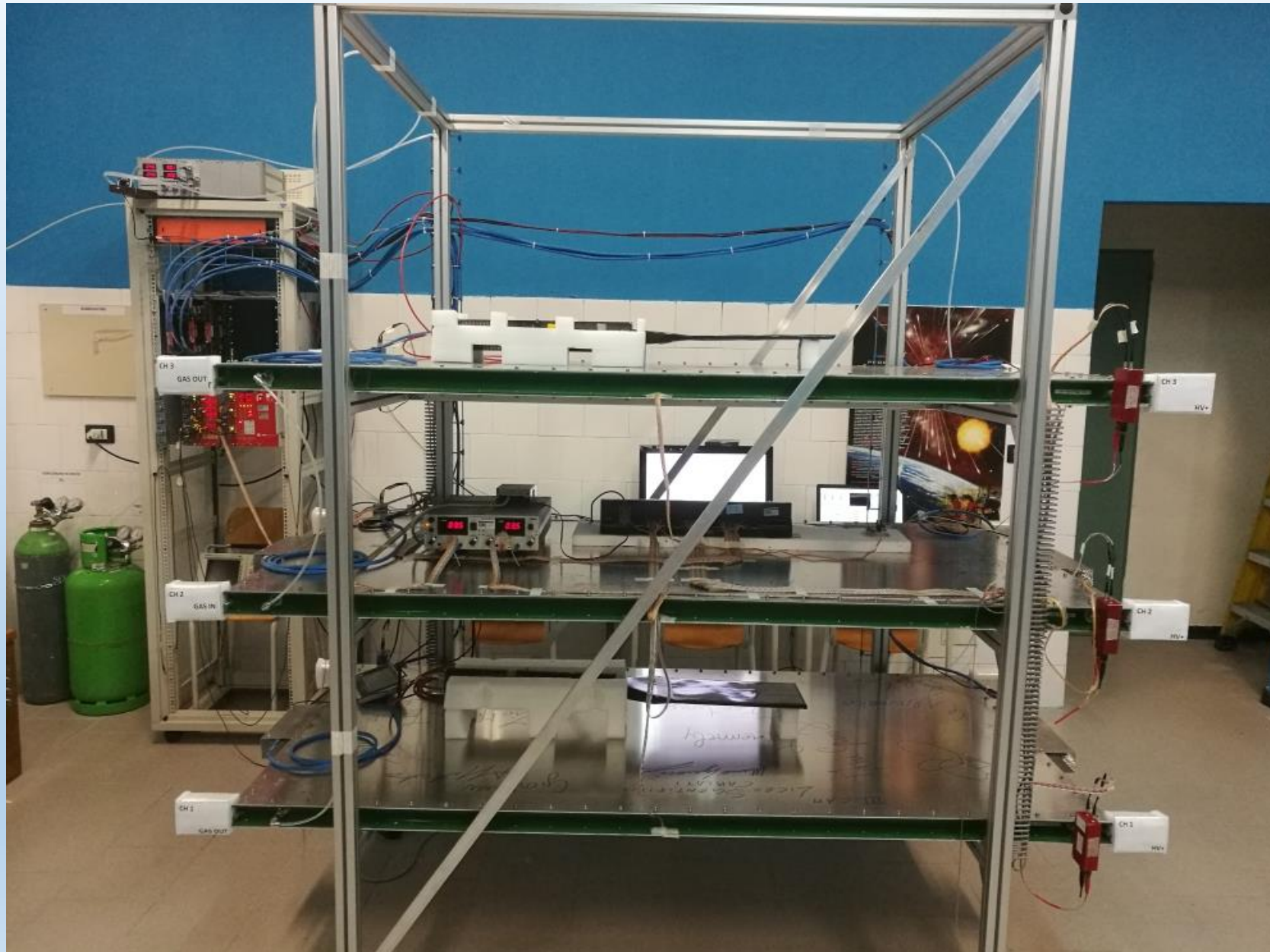
Gas, electronics and software september 22th and 23th 2017



LV, HV, automatic reading of P and T, cable wiring october 5th 2017



Telescope CARI01 ... waiting for trigger card







Short video of the stage at Ginevra CERN for the building of MRPC chambers
of the cosmic rays telescope (EEE Project)

<https://www.youtube.com/watch?v=ZlujnvaUrU4>

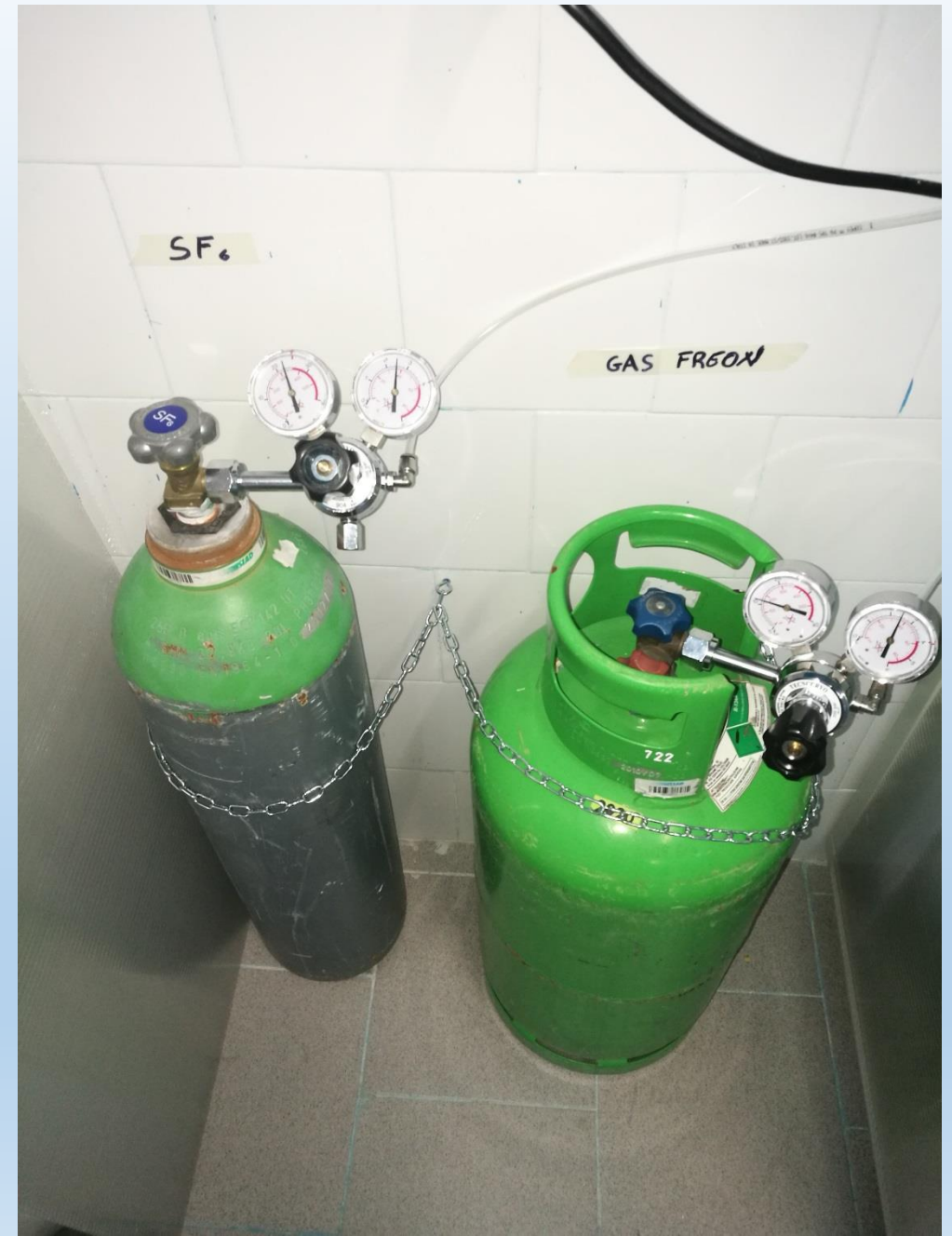


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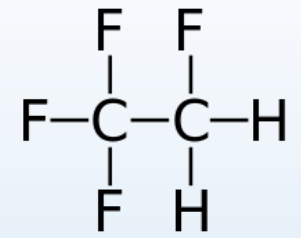


<http://www.eeliceocariati.altervista.org>

Our gas system



R-134A-GAS FREON C₂F₄H₂ (1-1-1-2 Tetrafluoroethane)



Net weight = 40Kg
Tare=18.6 Kg
Molecular Weight =102

$$V_m = 22.4 \text{ l/mol (at 1 atm and 0 °C)}$$

$$n = m / MW$$

$$n_{\text{Freon}} = 40 \cdot 10^3 / 102 \approx 392 \text{ mol}$$

$$392 \text{ mol} \rightarrow 8780 \text{ l}$$

$$\text{Telescope consumption} = 2 \text{ l/h}$$

$$\% \text{ Freon} = 98\% \rightarrow 1.96 \text{ l/h}$$

$$\text{Freon life} = 8780 / 1.96 \approx 4480 \text{ h} \approx 187 \text{ gg} \approx 6 \text{ months}$$

SULFUR HEXAFLUORIDE SF₆



Net weight = 26Kg
M.W.=146

same calculation ... life about 4 years

Spreadsheet for the duration of gas tank

[illegible]

Freon's average consumption L/h

