Ilaria

Detectors Operations & Plans

BESIII Italia
Nov 2020

...at the last BESIII Italia

- Cooling Test
- Updates on the Environment Monitoring
- Shifts to Monitor the CGEM-IT while running
- Interlock development

Test of the different elements of the circuit indepentently

Add a Pressure sensor to the present system

To have constantly a check on the main parameters of the system

Implement a safe and secure system to preserve the CGEM-IT

...during the summer

Due to the high humidity,
for safety reasons

- Kept the detector OFF from July to September
- Added a new Pressure Sensor (THP)
- Performed the Cooling Tests

Tested in Aug and Sept

L1 fields 300V ok – GEM 150V ok;

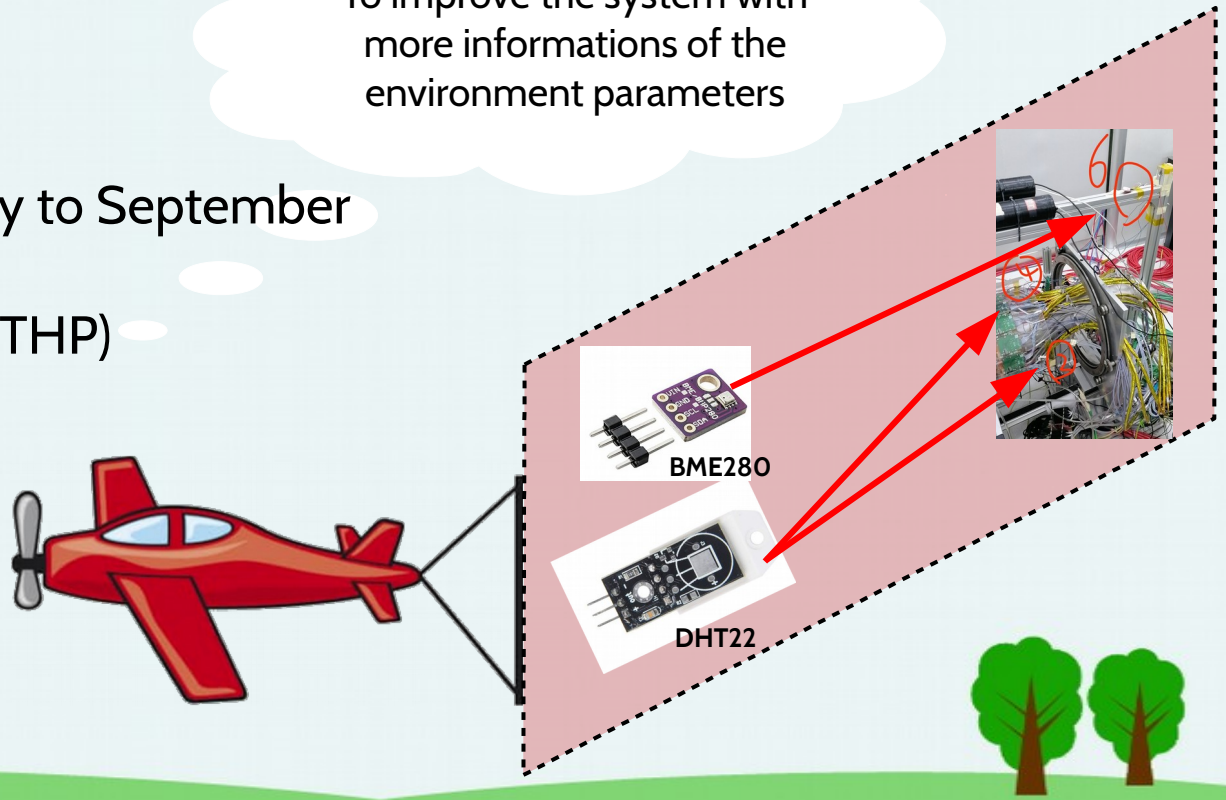
L2 fields 200V ok – GEM 100V ok.

Not tested for higher values

...during the summer

To improve the system with more informations of the environment parameters

- Kept the detector OFF from July to September
- Added a new Pressure Sensor (THP)
- Performed the Cooling Tests



...during the summer

- Kept the detector OFF from July to September
- Added a new Pressure Sensor (THP)
- Performed the Cooling Tests

To investigate the decrease of water seen in the past

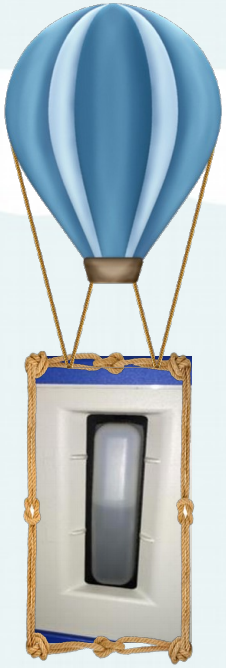
1) **Only UV Lamp**
2) **UV Lamp + L1**

NO visible changes

3) **UV Lamp + L2**

Changes compatible with known leakages

Tests one week long
Qualitative Measurements



...during the summer

Humidity > 40%
Once in BESIII it will be OFF

- Kept the detector OFF from July to September
- Added a new Pressure Sensor (THP)
- Performed the Cooling Tests

Now we have 3
sensors installed
close to the detector

No new issues found
in addition to the
known leakages

...autumn with CGEM-IT

- Keep the detector ON and acquire data
- Shifts to Monitor the CGEM-IT while running
- Interlock development

At nominal values

- L1 ✓
- L2 ✓ → *Alberto's Talk*

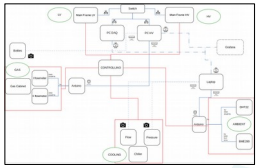
Always check the main parameters of the system *(Chiller, T&H, Gas)*

Study a safe and secure system to preserve the CGEM-IT

...Beijing from Italy

Guided by the detectors' safety
Considering the software suggestions

- Keep the detector ON and acquire data
- Shifts to Monitor the CGEM-IT while running
- Interlock development
- DAQ and SC tests development



To guarantee the detectors' safety
(Chiller, T&H, Gas)

Requested the new tests to continue the commissioning

[CGEM-IT Shifts]

Continously check the full system while the detectors are on

Chiller, T&H, Gas, DAQ status, HV status

EXPERTS

6 People

5 Shifts/Day

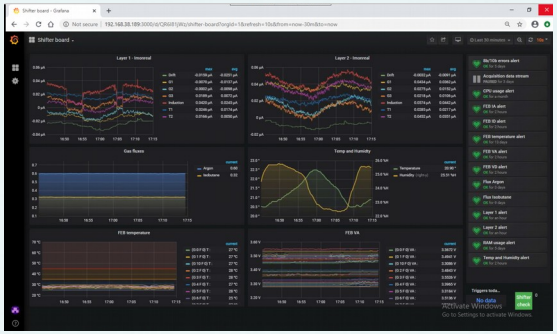
2 h/Shifts

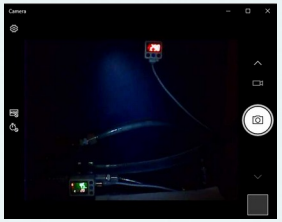
SHIFTERS

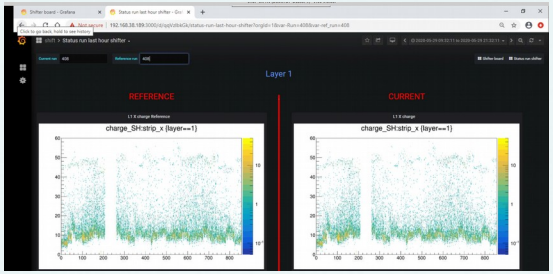
~10 People

3 Shifts/Day

3 h/Shifts







TRIGGER AWARD on hold

Don't be shy, sign up for shifts

[Hardware Interlock]

To be developed in Ferrara in the next months

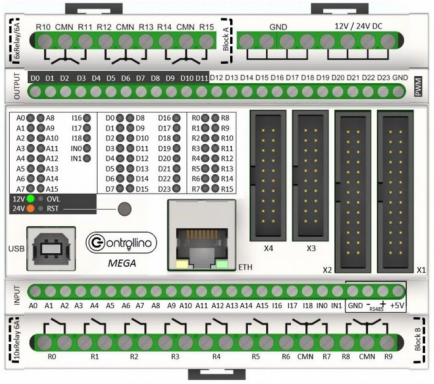
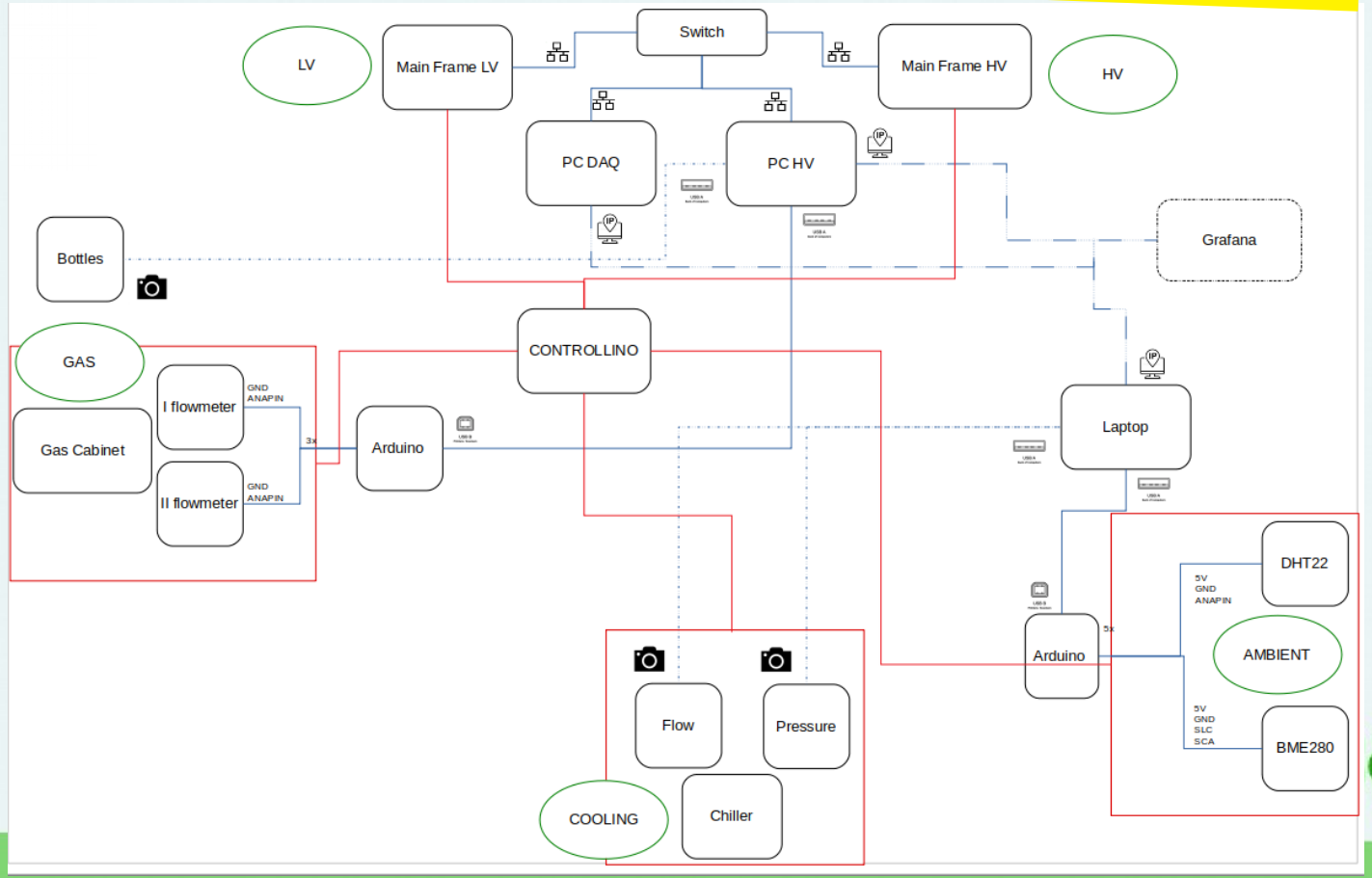


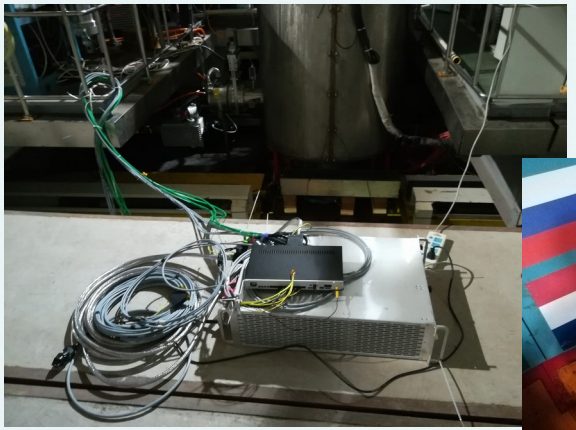
Figure 3:
CONTROLLINO MEGA



[DAQ & SC – HV & LV]

The Chinese colleagues suggested to improve the tests with a bigger setup.

We asked to use the BESIII Hall setup to test the systems
and wait for us to enter in the clean room.

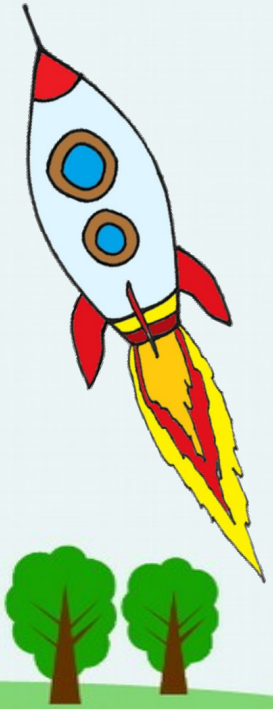


On top of the Pb at the Hall entrance

East side;
on top of the beam pipe

Present System:
- 4 FEBs
- 1 GEMROC
- 1 A2519, 1 A2517

To be added:
- 2 FEBs
- 1 GEMROC
- 1 A1515, 1 Radial-Redell



...Beijing from Italy

- Keep the detector ON and acquire data
- Shifts to Monitor the CGEM-IT while running
- Interlock development
- DAQ and SC tests development

Guided by the detectors' safety
Considering the software suggestions

To guarantee the detectors' safety
(Chiller, T&H, Gas)

Waiting for the hardware
Preparing the software

Programmed the new tests in the BESIII Hall

...future future plans

MAINTENANCE

- Substitute L2 heatsinks
- Validate L3 in Beijing
- Assemble CGEM-IT

INTEGRATION

- Set the new Cosmic Stand
- Test Slow Control (final)
- Test DAQ (final)

COMMISSIONING

- Insertion Test
- Cooling System Test (final)

...future future plans

- Substitute L2 heatsinks
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- Test DAQ (final)

- Insertion Test
- Cooling System Test (final)

MAINTENANCE

INTEGRATION

COMMISSIONING