The Infrastructure Team

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News

- The experimental campaign closed early August and the detectors were kept cold during the summer pause
- Laboratory power shutdown (3 days): mains supply OFF during the day and ON during the night. LVPS were turned OFF for several hours every day. No problems with detector cooling: the LN₂ system is powered from UPS. Normal operation started again end of August
- Successful integration of new electronics with the existing modules
- Added hardware and control software to monitor the 2nd detector PT100. Minor detector performance degradation observed, no effect on energy resolution
- Patch Boxes: the total production amounts to 21 units: 20 will be used on detectors and one will be kept at IPHC as reference. No hardware BSD

Highlights

- No humidity and oxidation was observed on DSS connectors (detector, patch box and PS), effects on the digitizer assembly to be verified
- Oscillations on ATC 8: no clear conclusion. The temperature reading is now stable. The output signals oscillate ~ once a week: cured with LV power OFF
- Instability of LN₂ level measurement observed in several detectors (Patch Box)
- When should we think about a major upgrade ? Not only for LN₂ and HV but also LVPS and mechanics. Present infrastructure not ready to accomplish the present MoU specifications (2020 is very close)
- Document with array specifications and requirements for the host laboratory (present MoU): *Basic infrastructure for the AGATA array. Checked by the AMB*

Team Activities



Team Activities

Time table

- present: GANIL campaign 11 ATC + n ADC
- near future: upgrades, extension > 15 ATC ?
- far future: towards AGATA 2π ?

Autofill

GANIL

The LN₂ system is ready for 24 detectors:

- 3 Valve Control Crates + 3 Profibus Crates, PLC
- 1 external LN₂ tank + 3 buffer tanks, LN₂ manifolds, valves, PT100, ...

2nd PT100 (close to the crystals) monitored with a Siemens PLC module, without interfering with the PBC/VCC hardware

To Do: UPS status signal and extra fill scheduled after mains supply shortage

Autofill

Future

The draft for a new autofill system, based on Siemens modules, has been prepared by Saclay (1 PT100 reading and 16 detectors) and presented to the AMB in 2013. Estimated development time: ~ 2 years

Aim: define a solution for 30 detectors, that could be extended to 60 detectors and find a nearly common cryogenic installation for the different host labs in order to minimize the changes in the PLC

AMB accepted to go for a prototype. **Update**: the priority of this project have changed (delayed by at least 2-3 years)

To keep in mind: should future projects comply with host laboratory standards and regulations (security, communication protocols, ...)?

Autofill



Hardware for 16 detectors, single PT100 reading Manual operation included

HV

GANIL

We have 2 CAEN SY527 mainframes + 12 HV boards on loan from the Gammapool. In the current configuration, only 1 mainframe is required

One HV channel stopped working. No problems with the detector

Future

We started to investigate the characteristics and performances of possible replacements. The system considered (CAEN SY4527 mainframe + A1560H HV boards and ISEG crate + EHS 8260P HV boards) have similar performances and are both excellent solutions for HPGe detectors