



AGATA AMB Phone conference 29th June 2026

Sujet : AGATA AMB June-July 2026 –

Apologies:

AGATA week preparation status

Program updated on the indico <https://indico.in2p3.fr/event/37746/overview>

Reminder to be sent. Lunch break are ~2h because the participants need to go outside for the lunch. Parallel room is available for specific meetings.

Reminder for ACC contribution to be done. Close session to be organized.

LNL Status (A. Goasduff)

^{238}U beam delayed by 2 weeks. Still not yet ready. Fission experiments have been merged and the MNT experiment will be shorted at the end of July.

Regarding the experimental infrastructure, problem with the AC; 27° minimum; condensation everywhere and “cold” water not cold enough for the V1 cooling.

The 8th pre-PAC dealing with the 0° campaign was organized. 49+1 LoI discussed. 420 days requested (201 NEDA, 119 PARIS). The PAC will be organized between December 2026 and January 2027. 3 high spin LoI proposed.

Task distribution re-organized.

July updates :

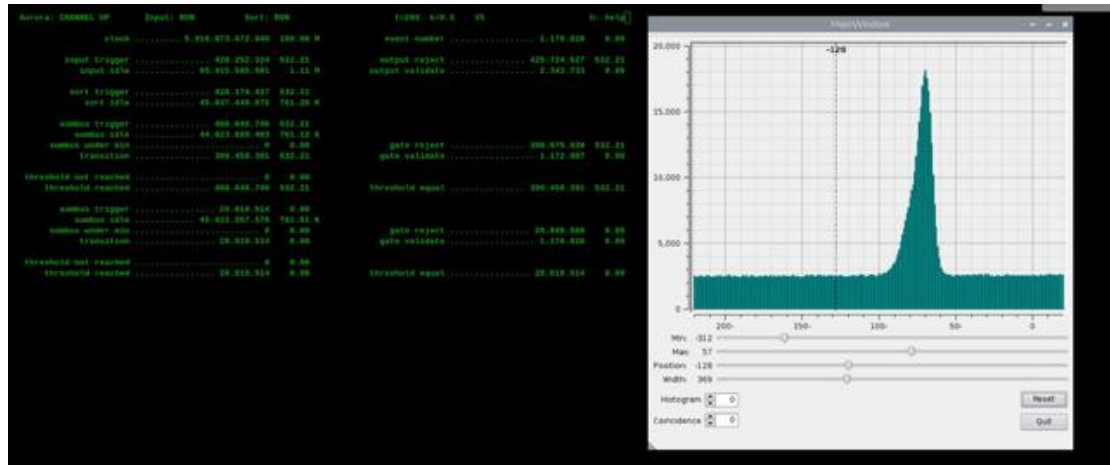
^{238}U beam finally delivered up to 1.5 pA on target. AGATA-PRISMA-NOSE (prisma second arm) setup working quite well. Many issues with the accelerators due to the heatwave. To add some drama, a false fire alarm triggering the radioprotection system and resulting in a faraday cup blocked on the beam line at the source level. Everything was repaired during the week end but still lost more than 3 days of beam time.

End of beam time foreseen for the 31st of July.

Source measurement during the first week of august and then starting to switch off the electronics, remove the MDR cables, unmount the digitizers.

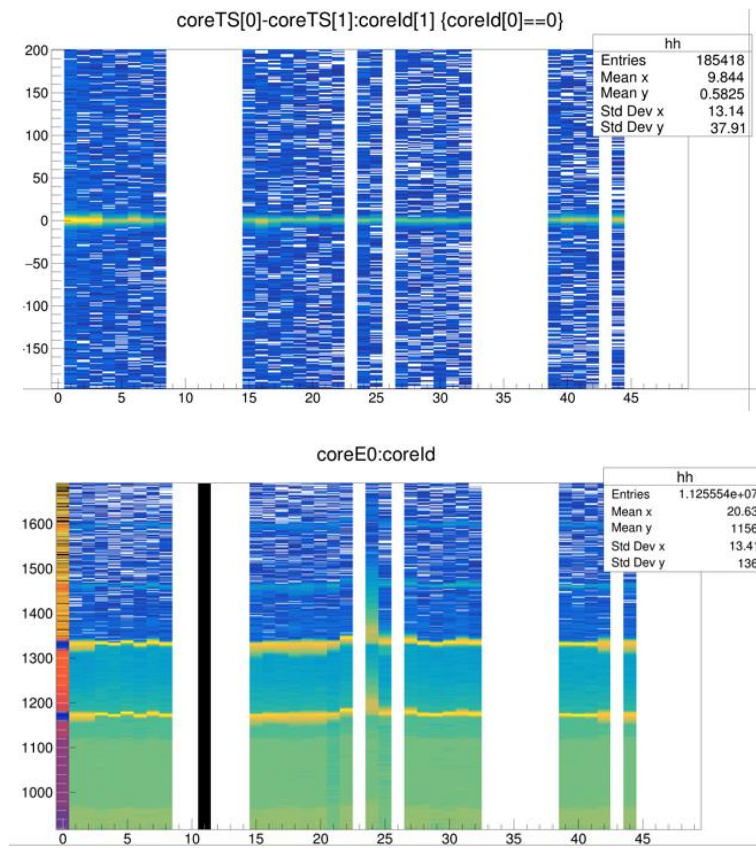
LNL will be closed from 10/08 to 24/08.

For the V2 we got the coincidence peak between PRISMA and the V2 channel at the TP level which confirm the integration of the V2 in the GTS system. Still some issues with the data validated by the TP. Javier is working on it.



We took data during the last experiment with the CAEN solution, unfortunately the detector ATC14 mounted since quite some time is having some issues with the temperature in the hall to keep cold for 6h, so we stopped after a few days not to damage the detectors.

We hope to be able to show the data during the AGATA week. So far we only checked after the EventMerger and TreeBuilder that the ATC14 (coreId == 42 and 44) are aligned in time and that the energy is reasonable)



ASC Report / ASC Matters (M. Zielinska)

LNL core list author distributed to ACC. Check for final approval.

As discussed with Kathrin and Pieter Doornenbal, the AGATA campaign coordinator from GSI/FAIR will change after the meeting in Warsaw (Kathrin gives a talk there still) from Kathrin to Pieter.

ACC Report / ACC Matters (J.J. Valiente Dobon)

- AGATA web page: A WordPress website for managing the public content. A dedicated publication management application integrated with Indigo IAM.

- Working on the DMP with O. Stezowski.

- ACTION FINISHED: update ongoing of the core author list after the approved criteria in the last ASC 23-24 April

- ACTION FINISHED: update ongoing of the technicians

- ACTION: mail sent Campaign Spokesperson for AGATA@GANIL ☐ deadline 15th of June. Elections if more than one candidate after summer. ☐ 6 candidates, so far 2 rejected. 2 are available. 1 checking incompatibilities. 1 to answer.

The preliminary agenda of the closed ACC session:

1. Membership and ACC update

- 2.ASC news

- 3.DMP

- 4.Authorship AGATA@LNL ☐ yearly check

- 5.AGATA @ GSI/FAIR Low Energy Branch

- 6.Software eco-system ;: from femul to Multi AI-agents and licencing: Jeremie/Mnu discussion

- 7.AGATA physics coordinator GANIL

- 8.Any action on AGATA science dissemination?

- 9.Next annual meeting

Any other business

GSI Status (K. Wimmer)

LEB discussion still on-going. Implication of AGATA to be discussed. Pieter Doornenbal replacing Kathrin in GSI. It is natural that he becomes the new LPM. Pieter will come to the AGATA week.

GANIL Status (C. Ciampi)

Many meetings on detector and mechanical assembly. Work on the DAQ room : power consumption, security, cooling proposals.

Draft of the host agreement distributed between LPM for correction and check.

REPORTS FROM THE WORKING GROUPS

Detector Module (H. Hess)

Herbert is now permanent in GSI and located 100% of his time in IKP.

Recent deliveries

C026: new detector, owner (INFN), FAT performed by IPHC Strasbourg Team, delivered to Cologne on 25th June 2026

Repairs and annealing of AGATA detectors:

C101 :(DAGATA) repaired detector, owner (GSI), FAT performed by IPHC Strasbourg Team, average resolution at 1332 keV: 2,00 keV and efficiency 74,8%, delivered to Cologne on 25th June 2026

A003: annealed detector, segment resolution at 1332 keV between 1,86 keV and 2,20 keV measured, efficiency 75%, delivered to Cologne on 25th June 2026

A016: annealed detector, segment resolution at 1332 keV between 1,77 keV and 2,12 keV measured, efficiency 79%, delivered to Cologne on 25th June 2026

B016: annealed detector, segment resolution at 1332 keV between 1,90 keV and 2,42 keV measured, efficiency 84%, delivered to Cologne on 25th June 2026

B017: annealed detector, segment resolution at 1332 keV between 1,95 keV and 2,25 keV measured, efficiency 75%, delivered to Cologne on 25th June 2026

C013: annealed detector, segment resolution at 1332 keV between 1,95 keV and 2,21 keV measured, efficiency 68%, delivered to Cologne on 25th June 2026

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Cluster Assembly and Maintenance

Cologne:

In Cologne, two triple cryostats are ready for shipment. The first is ATC24, owned by GSI and equipped with detector **A023**, **B023**, **C023**. The second is ATC25, equipped with **A021**, **B025**, **C017**, and the third one is the DEGAS triple cryostat, assembled with detectors **A501**, **B501** & **C501**. For the DEGAS cryostat, the formal transfer of ownership from Sweden to FAIR still needs to be completed. The delivery of ATC24 and ATC25 to Legnaro was originally planned for the end of July. However, due to the unavailability of a suitable transport vehicle, the shipment has been postponed to October.

Legnaro:

With the end of the 2026 physics campaign, all detectors will be removed from the frame. After the calibration measurements, the detector group will determine and plan the next steps for the cryostats and detectors, with the goal of having the maximum number of detectors back in operation by February 2027. Several systems have been running continuously for more than four years and now require urgent refurbishment due to degrading vacuum

performance. In addition, some detectors need to be annealed to recover from neutron-induced damage.

Apart from failed FETs or warm preamplifiers, all detector signals are currently available. However, gain shifts have been observed on some core signals, most likely caused by faulty connectors between the warm preamplifier and the MDR cable.

ATC12: The cryostat was dismantled due to vacuum issues caused by a saturated getter. Its capsules **A006**, **B002**, **C001** were installed in the refurbished triple cryostat **ATC14**, which was then integrated into the AGATA array to replace an ATC currently housing neutron-damaged detectors.

Afterward, the original cryostat was annealed and re-equipped with capsules **A008**, **B004**, **C012**. Initial tests, however, again revealed vacuum problems, likely originating from a leak in the Dewar. Initial tests, however, again indicated vacuum issues, most likely caused by a leak in the Dewar. The detectors were dismantled, and the cryostat was transported to Cologne on 24 July for further investigation.

ATC10: The cryostat was annealed, equipped with capsules **A008**, **B004**, **C012** from **ATC12** and afterward pumped. The remaining tests will be completed after the summer break.

ATC17: The cryostat was annealed and equipped with the capsules **A016**, **B016**, **C013** and afterward pumped. The remaining tests will be completed after the summer break.

All of this work was carried out at Legnaro by the IKP and IPHC Strasbourg teams, in close collaboration with and support from the local staff during the period from 20 to 24 July.

Beginning in early October, the detector group will use the time used for the conversion of the AGATA spectrometer to maintain the ATCs, anneal the detectors, and increase the number of available ATCs. The goal is to ensure that the AGATA spectrometer operates at its highest possible efficiency and performance at the start of 2027.

MIRION – AGATA meeting – MIRION Cryostat

A meeting with MIRION was organized on the 22nd of June to make a status of the production line and first discussion on the MIRION cryostat.

The Spanish (x1) and GANIL (x2) orders are confirmed. CNRS (x1 IPHC) and INFN (x2) are on-going. Unfortunately, the CEA order (x1) is cancelled for 2026. We are short of that capsule in 2026 when calculating the discount; a sort of penalty that we'll need to make up for...

For 2027, preliminary views are $1 \times \text{INFN} + 3 \times \text{DEGAS} + 3 \times \text{Slovalia} = 7$. The penalty brings us down to 6 for the 2027 discount calculation. Be aware, that there is no guarantee regarding the investment in Slovakia in 2027; this is something that needs to be clarified at the MIRION meeting in Q1 2027.

Also, MIRION has clearly indicated to us that sticking to the +2.5% inflation rate in 2027 is becoming increasingly unlikely. We will probably be looking at around +3% due to the price of Ge metal.

A new 12 annealing contract has been opened at MIRION by GANIL.

During the meeting a first price was announced for a MIRION cryostat = 240k€ (was ~150k€ by CTT). Consideration should be given to establishing a new structure within the working group. At first MIRION will maintain MIRION cryostat as it is expected that CTT maintains its cryostat until ...

CAT/FAT policy needs to be reviewed.

Contract to change the last ADC to ATC + upgrade of the TU-D cryostat upgrade has been signed between GANIL and CTT. The conversion of the last ADC into triple cryostat was finished by CTT. The newly assembled ATC was tested with electronic dummies and is waiting now for detectors. The procurement of the hardware required for the conversion of the last ADC, as well as for the upgrade of the DAGATA triple cryostat, is currently underway and is expected to take approximately 18 months. To accelerate both the double-to-triple cryostat conversion and the DAGATA upgrade, we used and will temporarily use available spare components—such as endcaps, Dewars, and feedthroughs—from the detector pool. These items will be replaced with the newly ordered parts as soon as they are delivered by the manufacturers.

In the meantime, the three DAGATA detectors have been repaired by Mirion, and within the framework of the technology transfer, CTT and Mirion will begin assembling the DAGATA triple cryostat in October. To make this possible, Mirion requires several technical items from the AGATA community, such as electronic and mechanical dummies, six MDR-to-BNC converter boxes, a pulser box, etc

The detector group anticipated this and began preparing the required components several months ago. The mechanical dummies are already available, and the mechanics for the electronic dummies have been completed.

The most challenging item will be the pulser core converter box, as some of the electronic components used in it have become obsolete and are no longer available. However, it is possible that we still have some of the missing parts in stock.

All required components are currently in production, but not all of them will be finished before October, when the assembly of the DAGATA cryostat is scheduled to begin. This should not cause any issues, as both the detector group and CTT can loan the necessary parts until production is complete.

The production costs for the required mechanical and electronic components are expected to be around €3,000–4,000, covering only the procurement of the necessary parts. At the moment, the financial situation is difficult, as Cologne currently has no available funds. A solution to this issue will be discussed at the next AMB meeting.

Infrastructure (B. Million)

The infrastructure TL will be replaced. Walter will replace Roberto.
As for the WG leader, Giovana Benzoni will be replace Bénédicte.

By-product, we seek for a new Ressource Manager.

Regarding purchases, IRFU asked for 2 big orders in view of the GANIL campaign.

➔ Regular request for updates of the Host Lab document from the FEBEE/DAQ WG !

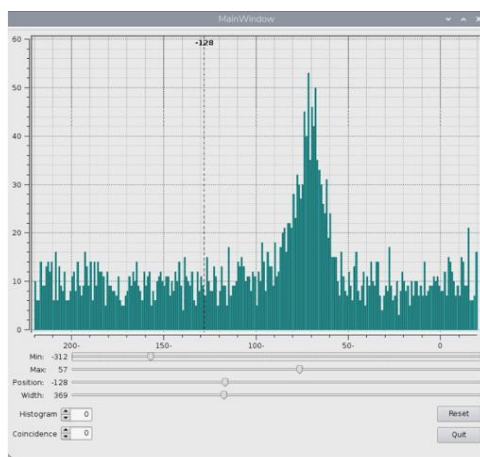
Mechanics : Production of the second shaft. Waiting from the UK grant results after summer.
ECM : Nabil sent a very detailed report on his last measurements. Pointing a possible source of noise from the CAEN HT. Further discussions are needed to understand why it is not homogenous (observed differences between board and channels)

Front End Electronics (A. Gadea)

Status at LNL (A.Goasduff)

Presently experiment uses 28 crystals with Phase1 electronics, 1 extra detector is connected to Phase 2, 2 capsules with issues in the Phase 1 Digitizer are connected to CAEN digitiser.

Testing the coincidences of the Phase 2 electronics: PRISMA gate goes to AGAVA to get coincidence peak between Phase 2 and AGAVA GTS via old trigger processor. The plot below is the coincidence peak between the V2 connected to the crystal 07C and the AGAVA receiving the PRISMA readout gate. (Normal operating condition for the AGATA_PRISMA coincidence) as seen from the old trigger processor



Regarding the data, Phase 2 in GTS mode is losing data. We get only Header and TS but no data block (E,T) from segments.

Backup CAEN electronics is working with offline correlation of time alignment of cores and demonstrate that data can be merged in sequence using source and now will do the same with the beam.

Currently operating AGATA with threshold at 20-40keV.

DIGIOPT12 (A.Pullia):

Small set of cards (1 core 3 segment for Poland and 10 segment, 4 core delivered for GSI all delivered to Andres (tested on Alberto's test bench).

PACE (J.Collado, A. Goasduff, A.Gadea, V.Gonzalez, J.M. Deltoro)

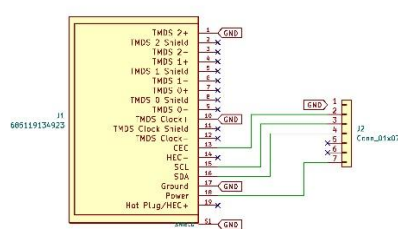
PACE Production

Still only 57 boards in Valencia (few to be repaired) 28 from GANIL order.

Alain Goasduff visited Valencia from 22nd to 26th June to contribute to the PACE testing and integration.

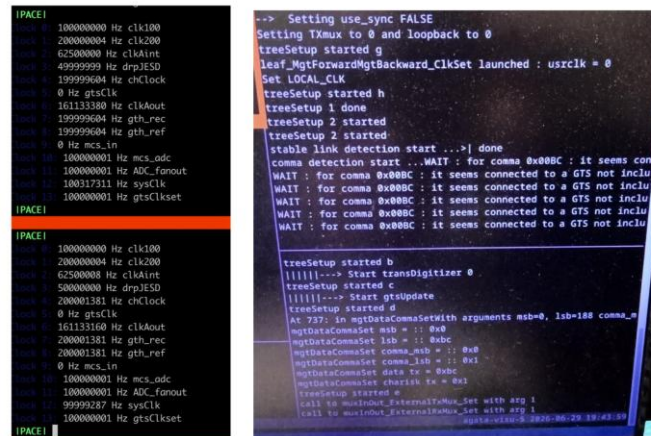
After the issue with the miniHDMI was identified, ETSE has been trying to get a working setup to be able to complete the PACE CAT The first attempt failed because the difficulty to produce the HDMI-TE connectivity cable, it was too weak and some of the contacts didn't match.

Finally, a PCB has been produce to adapt a full size HDMI to the TE-connectivity male connector.



8 prototypes of the adapter board have been produced at IFIC and the first attempt to test them failed because the PSU in the system was not delivering the 2.2V necessary for the DIGIOPT12. We have now tested that the correct signals arrive to the required pins in the TE connector. We have still one issue, that prevent the proper programming of the DIGIOPT12, that is the use by J.Collado of a voltage reset in the ADC settings, that is not present in the TE-connectivity connector. We have opened consultations with A.Pullia and J.Collado to solve this issue.

During Alain's visit CATs were performed for 15 more PACE boards with 11 boards GTS working ok at the first attempt. The other 4 boards gave errors like INCORRECT PLL VERSION that produced a wrong setting of the PLL. At some point in the afternoon of Friday 26th we started to get the message WAIT: for comma 0x00BC.... In all boards we tested from this moment. This happened with all boards including the reference one that was working before and we think that this is due to a wrong clock sysclk initialization. With the same GTS clock we get one board (STARE 93) with the sysclk 99.999 MHz and it is working and one board (STARE 36) with sysclk 100.3 MHz and the 0x00BC message. It might be a real problem or an unstable configuration. This will be further investigated.



At the moment 36 boards had the GTS tested with 22 working.

NOTE: Decision needed on how to proceed with the DIGIOPT12 modification adding the new connector, after testing the interface board.

NOTE: Teydisa has received the order of INFN for 50 PACE boards.
Action: to clear up how to produce INFN 50 PACE PCB

PACE Firmware

The visit of Alain Goasduff had two goals, first to progress on the PACE CAT and second to progress on the clock quality issue and on the readout data quality.

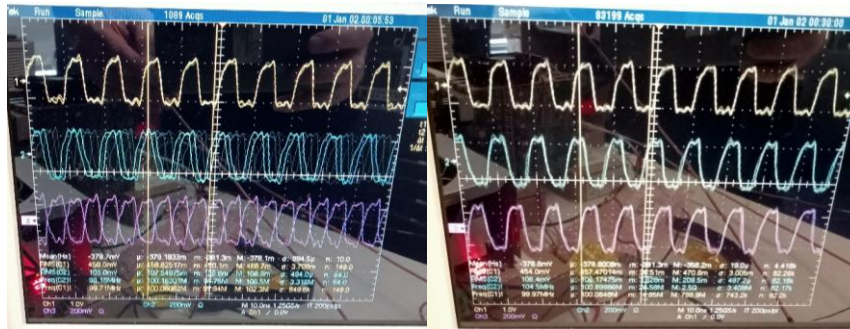
During last week we had two setups active, one at LNL with PACE, AGAVA, the GTS tree including the Trigger Processor and the DIGIOPT12 connected to an AGATA capsule. The second at ETSE with 1 or 2 PACE connected to a GTS tree.

During the visit of Alain, we also identified issues with the initialization of the main PLL that might explain the high rejection rate of PACE boards in the April and June CAT's, as mentioned before.

Javier has produced a setting of the PLL that improves the GTS clock delivered to the ADC's and we are trying to get conclusive tests. In fact the data coming from the LNL setup seems to have much less digital noise.

Discuss as well the issue with the missing segment energies, that is a long standing issue. A bug has been found in the Datapath IP that was a short timeout on the energy register of the segments. This has been solved in a new firmware version 17/07/2026, that we are now trying to test.

While we intend still to have an Ethernet working processor in each PACE, As Reported in the previous meeting A.Goasduff has found a way to circumvent the IP limitation in the GTS alignment procedure, instead of assigning a different IP to each PACE, he assigns a different port of the same IP. With this solution, it has been possible to have two PACE systems GTS aligned. Performing this procedure, we have found With this procedure, we have identified as well that the set of the delays in the PACE boards is not working yet and there is an alignment mismatch between the two channels, as you see in the attached figure



New contract with Zeptonova:

Presently Valencia has no expert personnel on firmware that can devote some time to maintain the pre-processing firmware. At the moment we are working with Zeptonova only with no support from the collaboration. Thus we should aim to find one or more groups in AGATA willing to get know-how on the AGATA firmware while keeping Zeptonova as consultant in case of need.

We can't expect Zeptonova will make evolve the AGATA firmware as needed in the future.

The points under we are discussing the new contract with Zeptonova are:

- Zeptonova will commit to deliver a fully working firmware in all aspects, GTS, Datapath and Triggering, in the coming months. We have requested a commitment of 50% of Javier time during the work.
- Zeptonova will commit to provide a working Petalinux, including the Ethernet part, and if there are hardware adaptations to be done, they will be communicated to the collaboration. The Petalinux will work with the IPBus GTS control version and not the EPICS to avoid wasting considerable time. NOTE: Alain pointed out that the Peta Linux needs EPICS running in it. Register access can be direct (or IP bus), current tests use direct access.
- Zeptonova will include the SMART IP in the synchronization and triggering system of PACE.
- Zeptonova is willing to commit to a knowledge transfer with the AGATA groups willing to continue maintaining or evolving the AGATA Pre-processing firmware.
- While git base repository is ok for VHDL, the Vivado project is much more than that and Zeptonova is willing to migrate the PACE code to the Script mode to facilitate distribution and migration.
- Zeptonova is willing to renew maintenance contracts in the future to support the group supporting the AGATA firmware.

Backup solution to the V2 electronics

Alain Goasduff is working with the DAQ group on a backup solution in case we have further delays or not a sufficient number of channels delivered for the start of the ZeroDegree Campaign at LNL.

September/October (AGATA week) we will decide whether to use CAEN electronics. 25 boards identified that could be borrowed to instrument 25 detectors. LNL will produce preamp cable adapters. Someone else needs to create gamma-or board (Andres thinks that IFIC may be able to do this).

Triggering will be more complex with CAEN

Nicolas is already starting to consider how to integrate CAEN into the DAQ (needs a card in Orsay and discussion in the AGATA week).

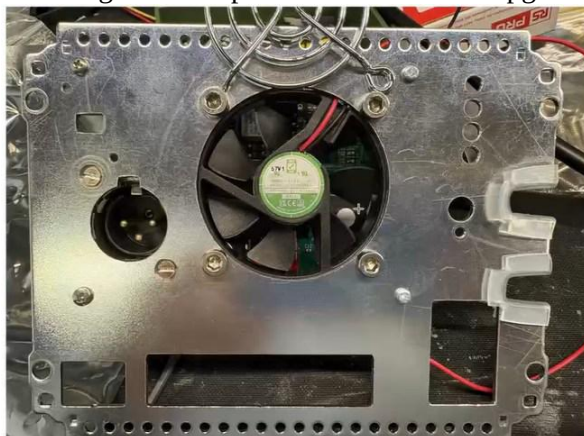
Alain suggest r/o with standard CAEN libraries- can integrate to DCODE.

Our priority is to deliver phase 2 as designed, but likely that for zero degree we have to use CAEN digitisers deadline AGATA week 2027.

Why continue to build phase 2 electronics? Data transfer bandwidth, triggering, monitoring, clock distribution all missing or very limited in CAEN solution and cost for full array is €1M more.

PSU and Mechanics: (V.Gonzalez, J.M. Deltoro)

Rear panel- larger fan modification has been made and tested- temperature now stays below 50°C after several days running. The rear panels will now all be upgraded to use the bigger fan.



Status:

240 DIGIOPT12, 104 STARE and 147 PACE cooling blocks ready

55 heat exchangers (99 ordered)

Front panels 35

Rear panels start next week

PCB revision has been made for new power supply capacitors with increased voltage.

Small PCB designed to connect PACE to DIGIOP12 using HDMI as noted above)

5 full rack/box sets received from GANIL order.

Have 50 PSU- just need PACE to start assembly.

STARE Topology Manager and slow control and DCODE status (N. Karkour, X. Lafay)

All STARE production is finished and tested. half the production is still at the manufacturer just to repair few boards before complete delivery. Everything is mounted all SOMS are mounted and tested. We have maybe 4 or 5 boards out of 145 (135 plus 10 preseries) which are not working and X.Lafay need to check why with the manufacturer.

N.Dosme reported that sometimes the PACE/STARE comms were lost- data transfer continued but card was not visible on network. X.Lafay found that some messages were being ignored because of a crash caused by messages over 600bytes. Now the firmware has been updated to ignore long messages.

Trigger Processor and SMART (A. Boujrad, M. Bezard, E.Clement)

First experiment in June TAS instrumented with NUMEXO2 and using SMART.

FASTER plus NUMEXO2 and VME using SMART timestamps- 3 subsystems M. Bezard successfully coupled including VME/VXI.

Expected to replace GTS by SMART from 2027 at GANIL to regain 100% control of clock distribution at GANIL. Next thing is to get trigger functionality for SMART.

Software and slow control firmware (Ch. Bonnin, N. Dosme)

Christian reported that March technical meeting at IJC lab- report written:

<https://atrium.in2p3.fr/c57e3e31-3a02-4468-bd68-aa13775056ca>

STARE slow control updated.

Nicolas, Xavier, Christian have discussed information-sharing between topology manager and slow control

Nicolas- topology manager improved to manage V2 and generate all configuration files. As yet the PACE is not included until PACE firmware (including registers) is finalised. A new PACE with latest firmware is needed in Orsay to continue this development as soon as a stable version is available.

Summary of Procurement and Delivery Schedule

Status now as discussed and agreed in this meeting:

DIGIOP12 90 full sets in stock and 5 more cores (4 GSI, 1 Poland) , 14 more segments (10 GSI, 4 Poland)

STARE 135 boards (hardware) are ready (Also 10 pre-production)

SOM integration complete. still 2 or 3 STAREs have problems to be investigated

PACE 90 in production and 50 ordered by INFN.

57 in Valencia; 3 with issues requiring repair; 36 tested, 21 waiting for completion of CAT before shipping to GANIL. Some problems under discussion.

All SOMs (135 plus spare) have arrived in Valencia.

PACE firmware: Mostly completed.

- Data is lost (only header and timestamp) when reading data with GTS trigger
- Necessary to explore how the implemented MWD algorithms work at high rates including new MK algorithm.

50 PSU exist.

New PSU PCB received, all components sent to company; 2 prototypes exist, not yet tested.

2 orders for 30 units plus 5 units produced in Valencia (parts exist for the Valencia units)

Front/back panels now in hand. Front panel revised after feedback from LNL. Production has not yet progressed- waiting for external company.

250 trigger PCBs exist for external trigger.

59 heat exchangers ready now. Continuing through the year (material exists to make these and the cooling blocks- just waiting for manufacturing quotes). 84 more have been ordered.

147 PACE cooling blocks and 104 STARE cooling blocks have been received

58 complete sets exist now (with PACE redesigned cooling blocks). Most of the mechanics is ready.

LNL LVPS for all modules exist in LNL for 32 ATCs. 15 servers for V2 from Orsay are installed and are connected to network. 30 crystals of V2 can be supported in LNL now. (servers and switches delivered). 4 links 100GB.

STARE firmware: PLL qualification OK. NB this is UDP. Full tested UDP firmware has been released (tests reported at AGATA week). RUDP comes later if needed (March 2026 tests suggest not needed). New release with counters was sent to LNL for data transmission integrity tests (and is integrated in the new test bench). LNL and Orsay are now running the same release.

System test with 24 crystals and simulated data completed successfully over 100Gbit links at 95Gbits aggregate rate. This shows that RUUDP is not needed.

Idle frame simulation has been implemented in the latest firmware (this is not yet sent to LNL).

Slow control Python 3 upgrade is complete and all working. Register changes from STARE and PACE have been incorporated into slow control. Christian is keeping his version aligned to the development version. (Javier moved to IN2P3 GIT for software).

STARE python 3 updates made to support latest version (in part flashing firmware).

XL is working on cleaning the slow control python code.

Data Processing (O. Stézowski)

Jérémie is continuing his incredible work on the AGATA data... It's worth reiterating that this is truly a Herculean task... he's currently rivalling ATLAS in terms of resources at Bologna. It's really massive and paves the way for a more structured way of working in the future, with a catalogue, metadata, etc. ...

Testing at Orsay is continuing to ensure the reliability of the processing... the 12 STARE units on a network interface are working. Guillaume has started setting up the pipelines to reach the global level. The report of the last tests is :

- ➔ 22 data links (18 Stare links + 4 software emulator links) at 5 kHz with full processing (pre-processing + PSA + recording to disk):
<https://atrium.in2p3.fr/nuxeo/site/doc/672ae55b-74cf-4acd-b4e4-6aee1b90700d>
- ➔ 18 STARE data links at 50 kHz with acquisition only (SQM + SQM2ADF followed by data dump): <https://atrium.in2p3.fr/nuxeo/site/doc/81ca31af-6e63-4d1d-9708-dc8bedcb9686>

Key points in conclusion:

- the system enables the acquisition and complete processing of two 5 kHz crystals using a single server (configuration for deployment at Legnaro)
- R-UDP does not appear to be necessary; losses are minimal with a well-configured system (OS and network) (no loss on Stare links, $< 5 \times 10^{-5}\%$ on emulated links)
- Further optimization is required on the network side (or Stare) to ensure there is no impact on the host site's network

Upcoming tests (already underway):

- integration of Christian's SlowControl and monitoring software
- investigation into increasing the number of links per server (more links per acquisition server, possibility of decoupling acquisition and processing)

They're still learning how to manage / debug / optimise situations where a node (STARE-switch-snode) plays up

Since June, they've also managed to run a 12-STARE topology at 12 kHz over a single network interface on one snode that represents 9Gb/s of input to the machine

The topology running is just SQM + SQM2ADF (with compression)... and it's been validated...

The next step is to run the PSA on other machines without STARE links so that we can parallelise the PSA and scale up ... for example, PSA at 15 kHz and see how much it can handle in theory, potentially 10 * 12 STARE @ 12 kHz ...

Started drafting the DMP and data policy to include the ACC responses from the spring.

OASIS workshop on AI has shown that we need to clear our licencing policy for softwares.

PSA and Tracking R&D (A. Boston)

Characterisation

Last Team meeting scheduled 25th May 2026. Report from Dan Judson.

Liverpool

The Department of Physics is having a new liquid nitrogen facility built. This requires a new filling room to be built within the existing main lab to comply with current health and safety regulations. This means that only 1 of the 2 big scanning tables are available. It is expected this work will be finished by September.

We have purchased a new 1 GBq ^{57}Co source that is mounted in a portable collimated block that can be used on either scanning table and giving the possibility of 0.5 or 1.0mm collimation of 121 keV gamma rays.

The first stage of characterising neutron damage to the A601 AGATA-like detector has begun. It was initially scanned (singles and coincident) before being exposed to neutrons to get a baseline. Then it was irradiated with $\times 108$ neutrons cm^{-2} using the AmBe neutron source at Liverpool, due to delays using the Birmingham neutron facility. It was then rescanned to evaluate the eTects of the neutron damage. The neutron dose will now be increased to $\times 109$ neutrons cm^{-2} before the detector is scanned again. Once this has been completed, the neutron dose will be increased to $\sim \times 1010$ cm^{-2} (possibly at the Birmingham facility, if it is available by then) before being characterised again. It is expected to take around 3 months.

IPHC Strasbourg

Analysis of the data from last year's scan of B003 looks very good.

The set up for scan of C016 is in progress – in summary

- 21st Jan – C016 installed on the scanning table.
 - 29th Jan scanning across bore hole to ensure vertical alignment.
 - 9th to 17th Feb C016 aligned to the D/E (IKP) boundary to ensure rotational alignment. Now using B/A + D/E boundaries for alignment due to the way Mirion applies the segmentation boundaries. Several test scans done for optimising the procedure.
 - 18th February – 7th March Vertical mixed mode data was taken in mid-February for 15 days.
 - 12-13th March Marie-Hélène started laser alignment
 - Laser alignment in May and detector placed in horizontal position.
- 25 May, the scanning table failed to stop when homing and has possibly destroyed the alignment. This will take time to find out why it did not stop and fix the alignment. Decision taken after the meeting to start again the scans from scratch. End estimated by Nov-Dec 2026.

For planning – No new AGATA detector will be scanned until 2027.

IPHC analysis:

- February / March Gala was at IPHC to analyse B003 data and working on tomographic scan data.
- Lea has joined the group and is working in the lab part time (50%), learning to mount single and then triple cryostats and how to perform scans. She is doing studies the rest of the time. Discussions have been had with people from the University of Padova about IPHC scanning one of their Pulsed-Laser-Melted contact detectors later in the year.

Salamanca

A short report was received:

- Gala has been analysing the B003 scan data collected in Salamanca in 2025.
- She is currently trying to correct for time alignment issues, possibly caused by the digital electronics.
- No more scan data is being taken. B003 was moved to Strasbourg and was scanned there.
- Gala also spent time at IPHC Strasbourg helping to take B003 data and build the database for the first time with the 1 mm pitch. She analysed also tomography data from A005 and B003. Currently investigating the benefits of scan time vs number of angles scanned.
- Due to this work, they would not be able to scan any new detectors until early 2027 at the earliest. Ideally this would be A005/C016 to allow comparison with Liverpool/ Strasbourg results. A005 is currently mounted in the Salamanca cryostat.

GSI

A short report was received:

- The A005 data taken in 2024 is being analysed by Hao, who is now working elsewhere so does not have a lot of time to dedicate to the analysis.
- A011 was scanned in 2025 for timing data. Hopefully the data will be analysed later this year.
- In 2026 a large fire destroyed the accelerator building and lab. The fire has delayed scanning of new Agata detectors for 2-3 years. Maybe they will have a new lab by the end of 2027.
- There is some development work ongoing at IKP but the distance from GSI-IKP make this slow.
- The scanning system was undamaged and is currently being used to scan silicon detectors.

Summary of future plans:

- IPHC Strasbourg are trying to improve the final alignment of the Y-axis from the current of accuracy of 40 milli-degrees over ± 15 degrees.
- The vertical alignment scan of C016 looks ok but could possibly be improved.
- IPHC Strasbourg to investigate buying a new source in with a smaller physical dimensions to give a higher count rates through the collimator without needing a higher activity source.
- Possibly this could be made at IPHC cyclotron by activating a target. Gilbert is in discussion with the cyclotron operators to see what is possible.

AoB

Possible Agata week talks:

- Liverpool - Neutron damage study of A601
- Salamanca - Data analysis of B003, Analysis of tomography scans at Strasbourg
- Strasbourg - Status C016, Tomography scans
- GSI - Status of A005 analysis

PSA and Tracking

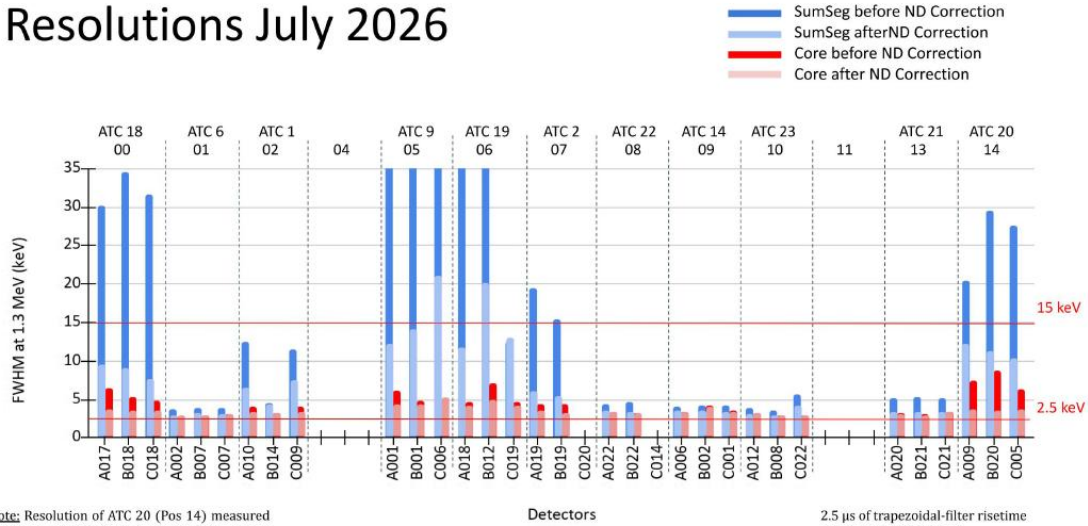
Update requested for next meeting and request for AGATA week presentations sent.

Performance and Simulation (M. Labiche)

The high energy gamma analysis and high spin run are currently analysed. Reports will be presented at the AGATA week.

Report received from Rosa following data taken on the 19/07/2026

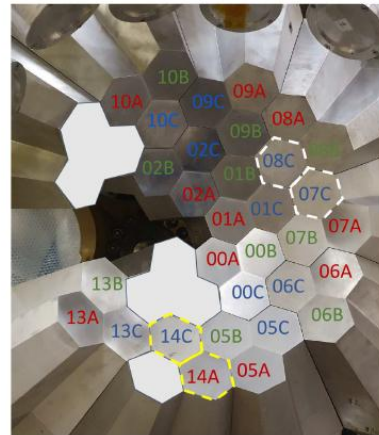
Resolutions July 2026



Status July 2026

- 01A (A002 - ATC 6): two missing segments, seg. A1 and seg. E4.
- 05C (C004 and C006 - ATC 9): gain and baseline of the core jump together over time, this change affects the gain of the core and of the segments
- 07B (B019 - ATC 2): bad resolution due to the continuous oscillation of the energy in the HG core (LG ok)
- 08A (A022 - ATC 22): Extra peaks at low energy in several segments. E1-6, F1-6
- 08B (B022 - ATC 22): seg. B4 with a broken FET causing ghost peaks in the neighbours and seg. B3 with adc offset out of range (saturates).
- 08C (C014 - ATC 22): Core signal not present. Changing the preamp did not help.
- 09B (ATC 14): core with bad resolution. Sum of segments ok
- 10C (C022 - ATC 23): In many segments was confirmed a gain shift over time. In addition the T0 and TT gets strange shapes time to time. Solved during the experiments by switching off and on the preamp.
- 00B (B018 - ATC 18): displays a cross in the PSA hit pattern
- 14A,B (A009, B020 - ATC 20): caen digitizers
- 04 (ATC 7), 11 (ATC 1): unmounted for maintenance.

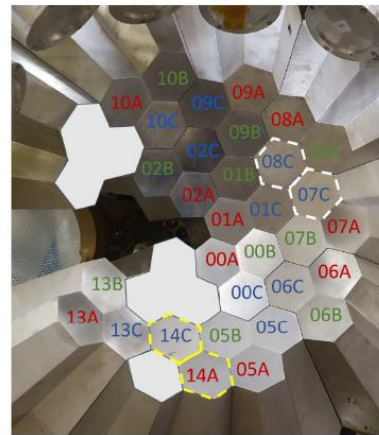
11 ATC-33 dets
(28 in DAQ)
(2 Caen digitizers)



Crystal lookup table July 2026

Position	ATC	Crystal			Installation date
		A	B	C	
00	18	017	018	018	15/01/2024
01	6	002	007	007	13/04/2026
02	1	010	014	009	05/11/2025
04					
05	09	001	001	006	01/05/2022
06	19	018	012	019	13/02/2024
07	2	019	019	020	18/09/2023
08	22	022	022	014	17/03/2025
09	14	006	002	001	09/09/2025
10	23	012	008	022	04/10/2024
11					
13	21	020	021	021	28/01/2025
14	20	009	020	005	01/01/2023

11 ATC-33 dets
(28 in DAQ)
(2 Caen digitizers)



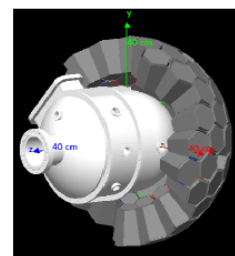
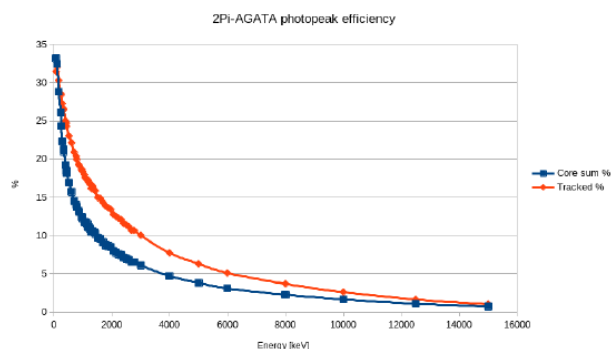
Performance status and updates

- Some strange nonlinearities were found in the recalibration of the detectors (see Ryoh's report).
- We had a meeting with Alain to understand if it was a problem related to the type of digitizer used (AGATA, GALILEO). And it seems these sudden increases/drops in residual trend are present on both AGATA and GALILEO digitizers.
- The periods where some detectors were not validation have been excluded
- Femul is being modified by Matus to include poly2 recalibration (or higher order that we need for 1 crystal). There are at least 4 detectors that need to be reprocessed before having the final core efficiency values.
- Matus optimized the efficiency code he developed to calculate the efficiency with automatic fits, however with the current efficiency function the curve starts to deviate significantly from the experimental points, underestimating the experimental efficiency above 3.5-4MeV (see slide with the efficiency curve for close up position)
- Waely was contacted to see the next steps on how to proceed with tracking. Ryoh will continue with the analysis
- Damiano will also check the “bubble tracking” code with the performance data.

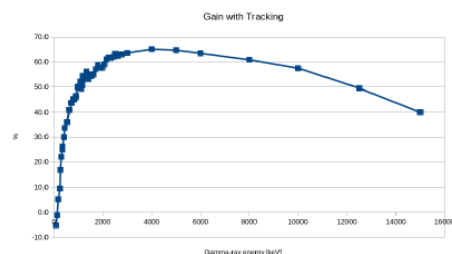
Simulation

- Git repository updated with the G4-11.4 version of Joa.
- New branch created for G4.10
- A new branch with option to use pre-defined physics list from GEANT4 is also being prepared.
- LNL chamber geometry from CAD drawing is now available
- Simulated Efficiency curve for a 2pi configuration provided in next slide.

Simulated efficiency curve for the 0-degree campaign with AGATA 2pi



AGATA-2pi
including the LNL
0degree chamber



Commissioning

LoI presented at the last pre-PAC:

- The AGATA-NEDA in-beam commissioning will be performed using the $^{96}\text{Zr}(p,p')$ and $^{32}\text{S}+^{58}\text{Ni}$ reactions to validate hardware triggers and $1n/2n$ discrimination algorithms.
- The AGATA-PARIS in-beam commissioning will be devoted to the evaluation of the high-energy γ -ray response using $^{32}\text{S}+^{110}\text{Pd}$ and $d(^{11}\text{B},n\gamma)^{12}\text{C}$ reactions.

Financial Reports (B. Million)

Collecting the OC to be transferred to the commun account.

Dissemination (I. Kuti)

No report