

# Program of the detector group session 24

Herbert Hess: Overview of the AGATA Triple Cryostats and Detectors

Magda Zielinska: Status of the AGATA capsules

Marie-Hélène Sigward: Status of the AGATA cryostats

Christopher Everett: Neutron damage effects on A009  
and status of A601

Stefano Bertoldo: Recent developments in the fabrication of  
planar and coaxial HPGe detectors

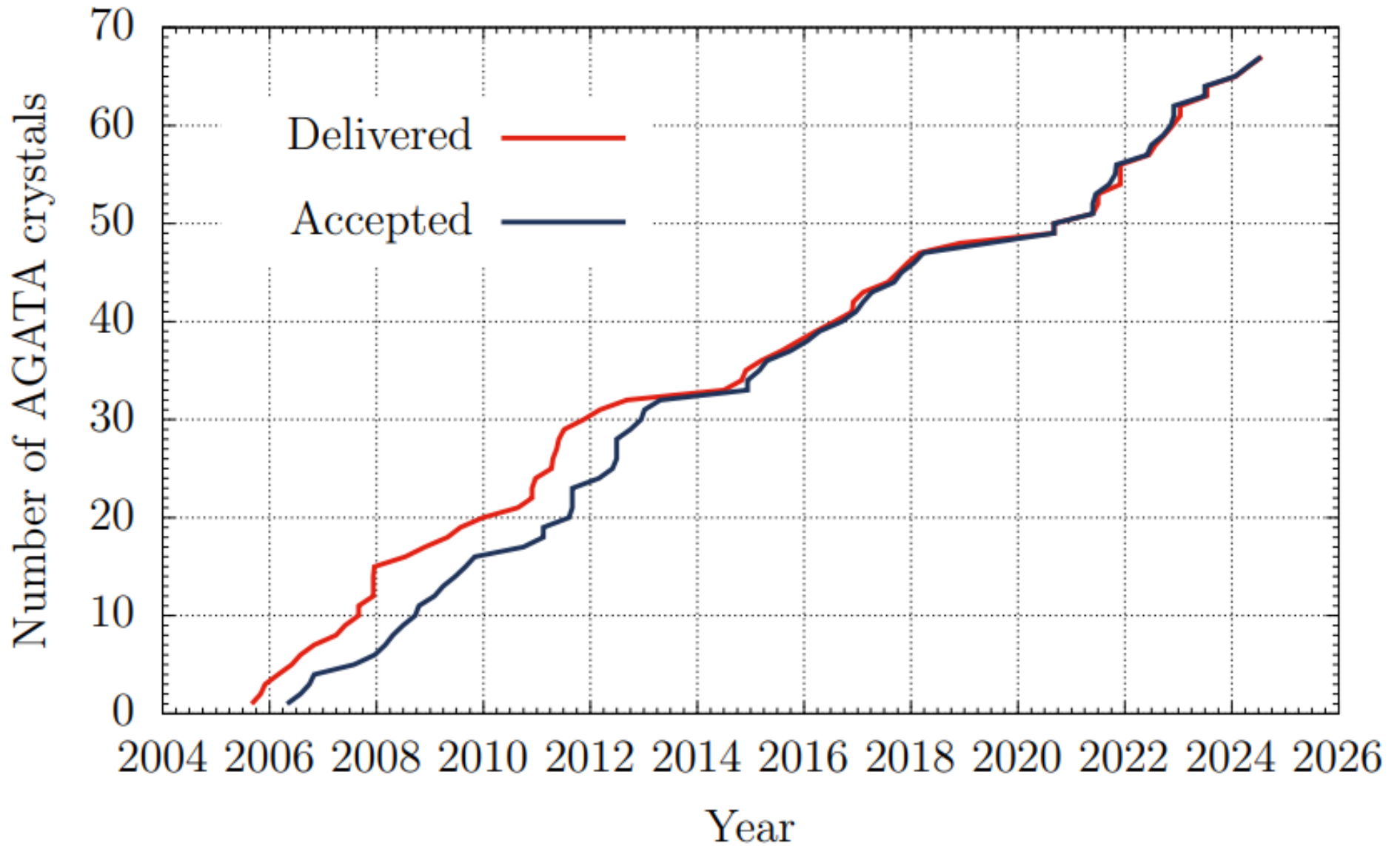


# Overview of the AGATA Triple Cryostats and Detectors

**Herbert Hess**, Rainer Abels, Jürgen Eberth, Kai Henseler, Rouven Hirsch, Peter Reiter  
Walter Raniero, Davide Rosso  
Gilbert Duchêne, Michel Filliger, Marie-Hélène Sigward  
Mark Karolak, Magda Zielinska,  
Andy Boston, Helen Boston, Chris Everett, Kieran Green, Dan Judson  
Emmanuel Clément, Laurent Menager, Charly Nicolle



# Status capsules September 2024



# Status delivered capsules September 2024

	Owner		Owner		Owner
A001	GANIL	B001	INFN Padova	C001	INFN Padova
A002	INFN Padova	B002	IN2P3	C002	CEA Saclay
A003	Liverpool	B003	Liverpool	C003	Liverpool
A004	Ankara	B004	Ankara	C004	Ankara
A005	Sweden	B005	Sweden	C005	Sweden
A006	INFN Padova	B006	INFN Padova	C006	INFN Legnaro
A007	INFN Milano	B007	IKP Cologne	C007	IKP Cologne
A008	IKP Cologne	B008	IKP Cologne	C008	Liverpool
A009	Liverpool	B009	Liverpool	C009	CEA Saclay
A010	INFN Milano	B010	INFN Milano	C010	IFIC Valencia

# Status delivered capsules September 2024

	Owner		Owner		Owner
A011	IN2P3	B011	INFN Legnaro	C011	IN2P3
A012	CEA Saclay	B012	IN2P3	C012	IN2P3
A013	TU Darmstadt	B013	CEA Saclay	C013	IFIC Valencia
A014	IKP Cologne	B014	INFN	C014	INFN Milano
A015	IN2P3	B015	TU Darmstadt	C015	TU Darmstadt
A016	Finland	B016	IKP Cologne	C016	IKP Cologne
A017	Atomki (H)	B017	Univ. of York	C017	Univ. of York
A018	UWS (UK)	B018	Atomki (H)	C018	Atomki (H)
A019	GANIL	B019	UWS (UK)	C019	UWS (UK)
A020	IPHC	B020	GANIL	C020	IPHC
A021	Liverpool	B021	INFN Milano	C021	INFN
A022	Spain	B022	Liverpool	C022	GANIL
A024	Liverpool				



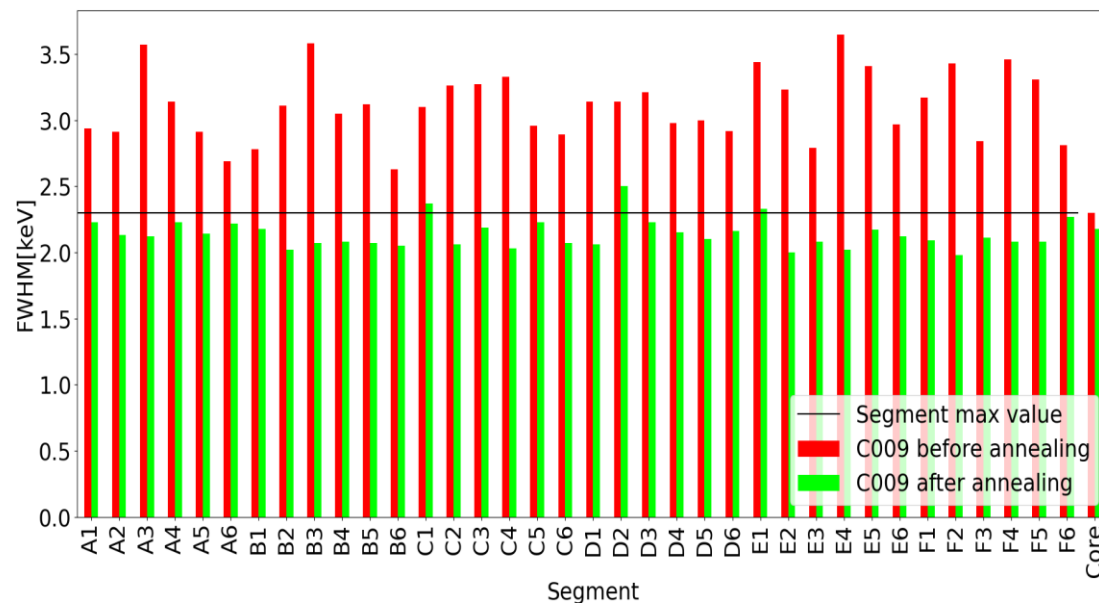
# Detector annealing

25 capsules annealed

Annealing at 105°C & UHV

A008: leakage current after annealing

Almost all segments within initial specification of 2.3 keV



# Capsules pending deliveries September 2024

**67 detectors available**

(32 in the new encapsulation technology)

**47 detectors at INFN**

**2 detectors at Mirion for repair**

**6 detectors at Mirion for annealing**

**Capsules open deliveries:**

**Germany:**

**A023**, delivery September 24 (GSI)

**B023**, delivery October 24 (GSI)

**C023**, delivery November 24 (GSI)

**France:**

**B024**, delivery February 25 (CEA Saclay)

**B025**, delivery May 25 (GANIL)

**C025**, delivery June 25 (GANIL)

**Italy:**

**A025**, delivery March 25 (INFN)

**C024**, delivery April 25 (INFN)



# Status Capsules 2025



1 x 19



1 x 16



1 x 14



1 x 13



4 x 3



1 x 1



# Status AGATA Triple Cryostats September 2024

19 ATCs delivered to Legnaro

2 new ATCs: ATC22 (INFN) & ATC23 (INFN)

**11 ATCs equipped with 33 detectors used for the physics campaign**

## Ongoing maintenance at LNL

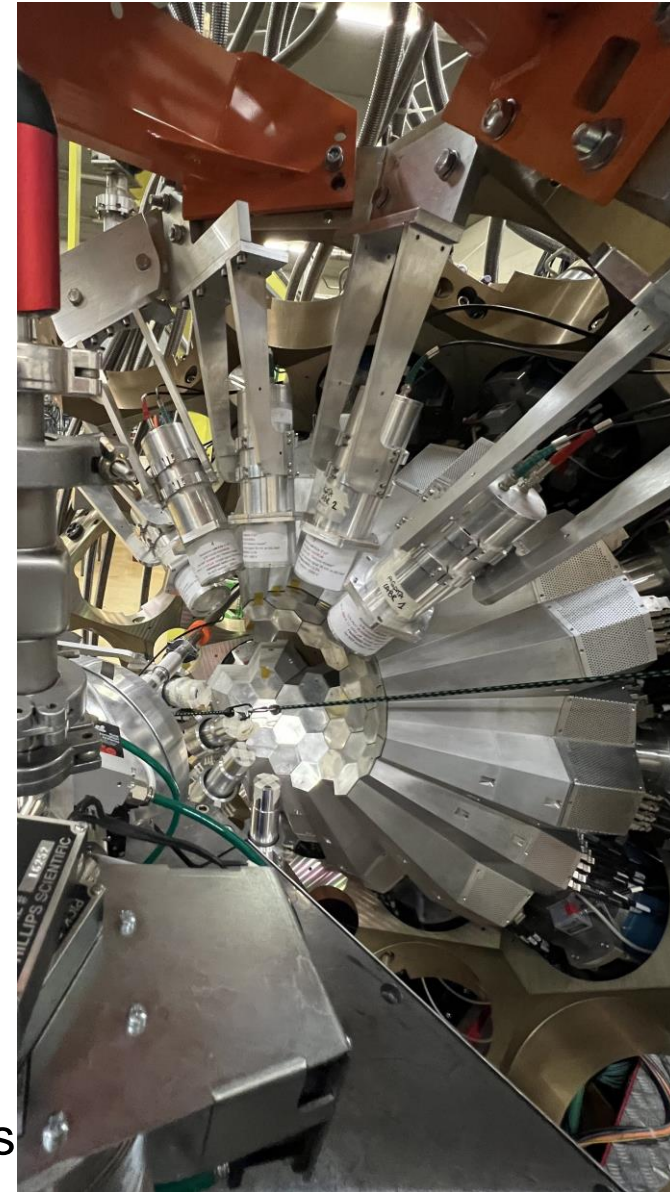
ATC23 & ATC21: in operation (one used for digital tests)

ATC22: A021 leakage current, has to be replaced

ATC12: new annealed detectors mounted, tests ongoing

ATC15 : detectors next candidates for annealing

ATC10 & ATC11 & ATC06: annealed, waiting for detectors



# Status AGATA Triple Cryostats September 2024

## Perspectives:

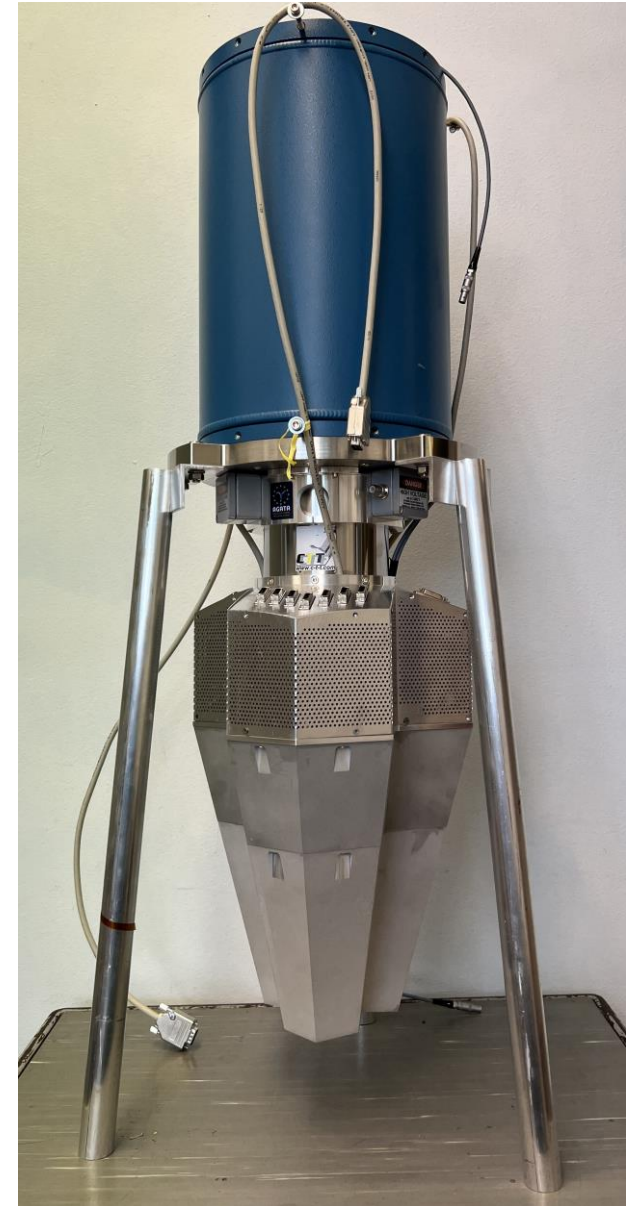
Further ATCs will be assembled and delivered to Legnaro

Conversion of one ADC to ATC16 finished (Cologne, CTT), waiting for detectors

## Open cryostats deliveries:

Germany (GSI): ATC24 has to be assembled until December 24

France (GANIL): ATC25 delivery 25



# Status Test Cryostats TC

TC01: in Cologne (TU Munich) upgraded to new feedthroughs & cabling

TC02: Darmstadt (Cologne), refurbished 24

TC03: Liverpool (Padua) upgraded to new feedthroughs & cabling

TC04: Saclay (CEA), refurbished 24

TC05: Liverpool (TU Munich) upgraded to new feedthroughs & cabling

TC06: in Legnaro (Daresbury) upgraded to new feedthroughs & cabling

TC07: GSI (Spain) scanning of **A005**

TC08: Salamanca (IPHC Strasbourg) scanning of **B003**



# Summary & Outlook

67 detectors available for AGATA

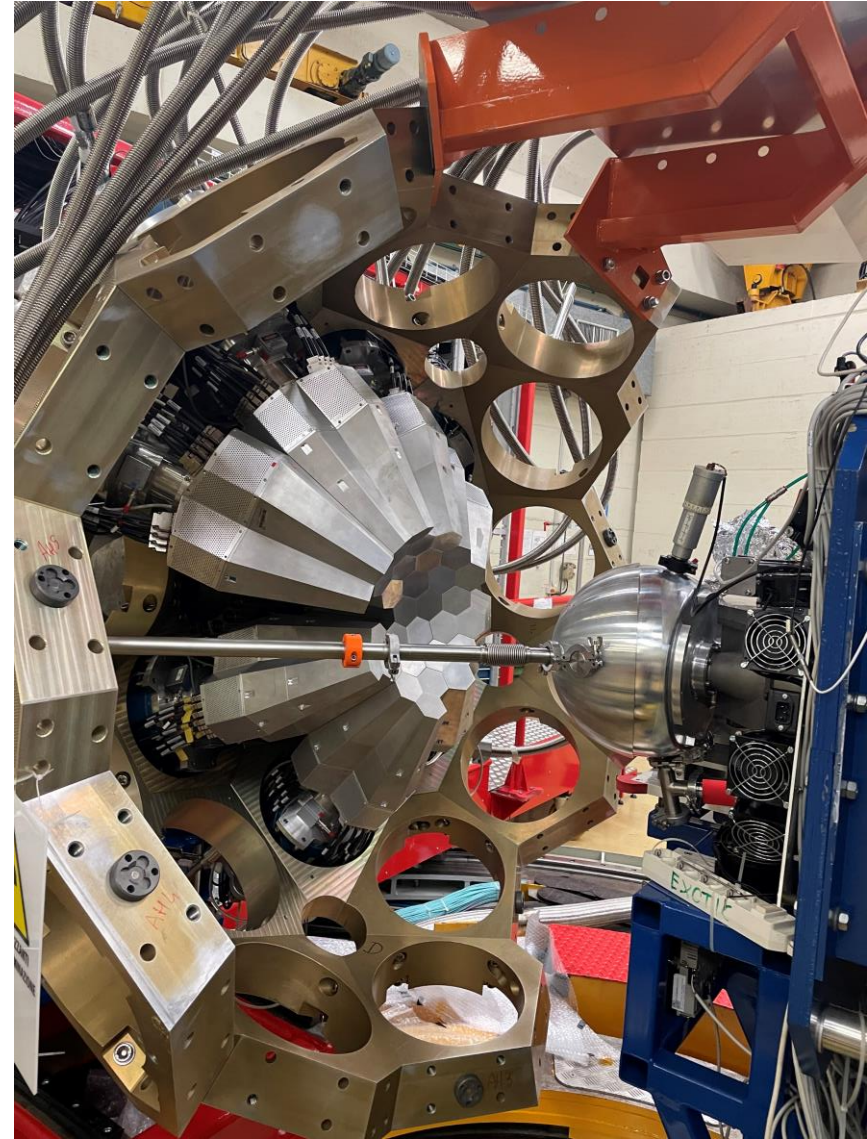
**33 detectors in 11 ATCs used for the physics campaign**

2 spare ATCs in the lab (Legnaro)

Perspectives: further ATCs will be assembled, repaired and delivered to Legnaro (ATC24, ATC16)

Maintenance of the first ATCs started in December 23 (vacuum properties)

Continuous annealing of detectors due to neutron damage to provide the best performance possible



# THANK YOU !!!

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Emmanuel Clément  
Laurent Menager  
Charly Nicolle

Walter Raniero  
Davide Rosso



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Kieran Green  
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