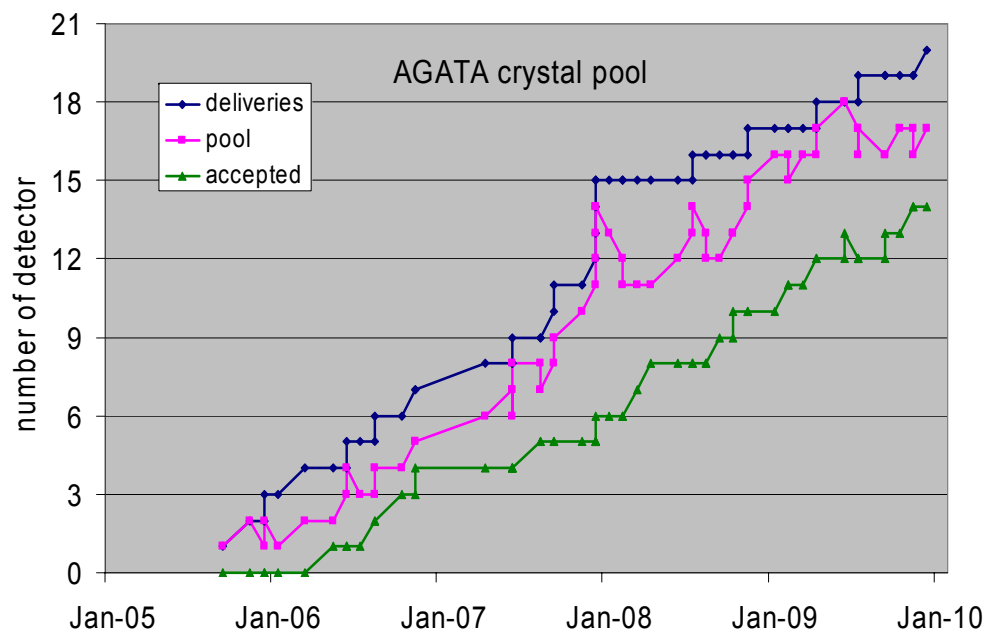


Status of AGATA detectors

- AGATA crystals
- AGATA triple cluster detectors
- Cryostat upgrades

B. Bruyneel, B. Birkenbach, J. Eberth, H. Hess, D. Lersch, P. Reiter, A. Wiens – IKP Köln
A. Goergen, M. Karolak, W. Korten, A. Obertelli, Ch. Theisen – CEA Saclay
H. Boston, S. Colosimo, D. Judson, M. Norman, C. Unsworth, T. Stanios – Liverpool
for the AGATA detector working group 9th AGATA week, January 20th, 2010

AGATA crystals - evolution



- “deliveries” grow linear...
- “orders” vs “deliveries” ?!
- “accepted” (& OK) diverges from “deliveries”
 - ↔ Microphony in core: 1st detector glued begin 2008
 - ↔ Growing in”-effect: average acceptance time = 1year
 - ↔ B006 / C003

20 detectors were **delivered**:

A001, A002, A003, A004, A005, A006, A007
 B001, B002, B003, B004, B005, B006
 C001, C002, C003, C004, C005, C006, C007

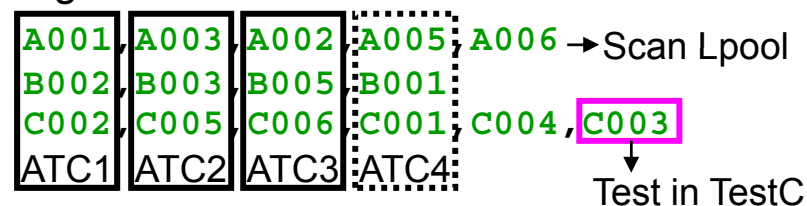
17 detectors currently in **pool**:

A007, B004, B006 returned to Canberra

14+2 detectors **accepted**:

A004 (Lpool), C007 (IKP) CAT pending

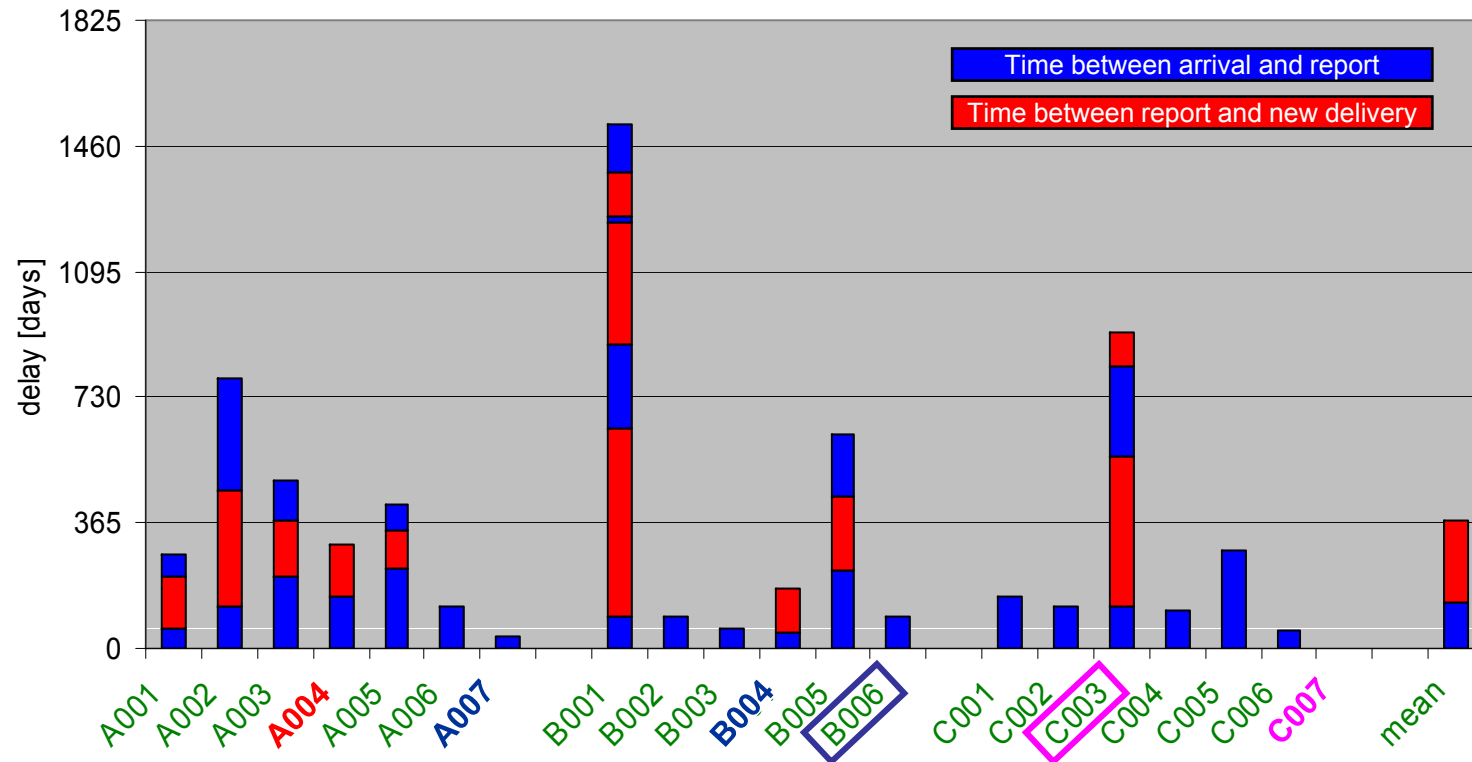
Usage of the available detectors:



Near future deliveries by Canberra (14/01):

A007 (new) late January
 B006, A008 (new), B004 February
 B007 (new) late March

Crystals & delays



Time for single acceptance test [days]:

mean 136 – min 15 – max 326

Time for repair at Canberra [days]:

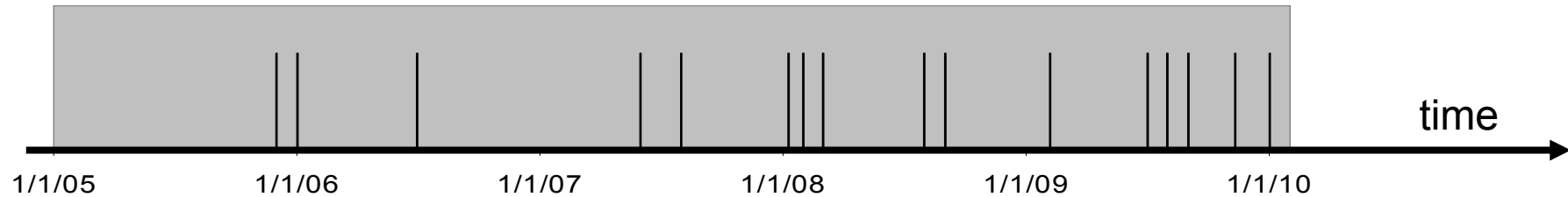
mean 234 – min 96 – max 547

Time between first delivery and acceptance [days]:
(delay by Turkish detectors taken out)

mean 365 – min 54 – max 1524

- Acceptance delay only over accepted detectors → lower limit!

Crystals & Failures



B001- segments out of specs

A001 – hole trapping

A002 – leakage current

A003 – leakage current

C003 – leakage current

B004 – missing segment

A004 – segments out of specs

B001- leakage current

A005 – leakage current

B005 - leakage current

B001 – leakage current

B006 – leakage current

C003 – leakage current

A007 - microphony

B004 – leakage current

C003 - microphony

New type of failure: **microphony in segments** -

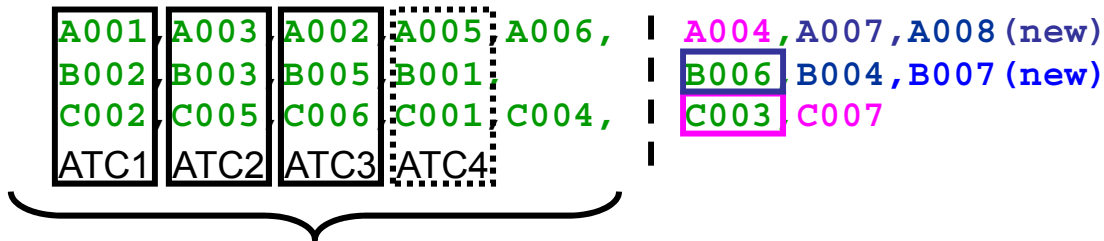
Differs from microphony in core: independent on HV

Is position dependent

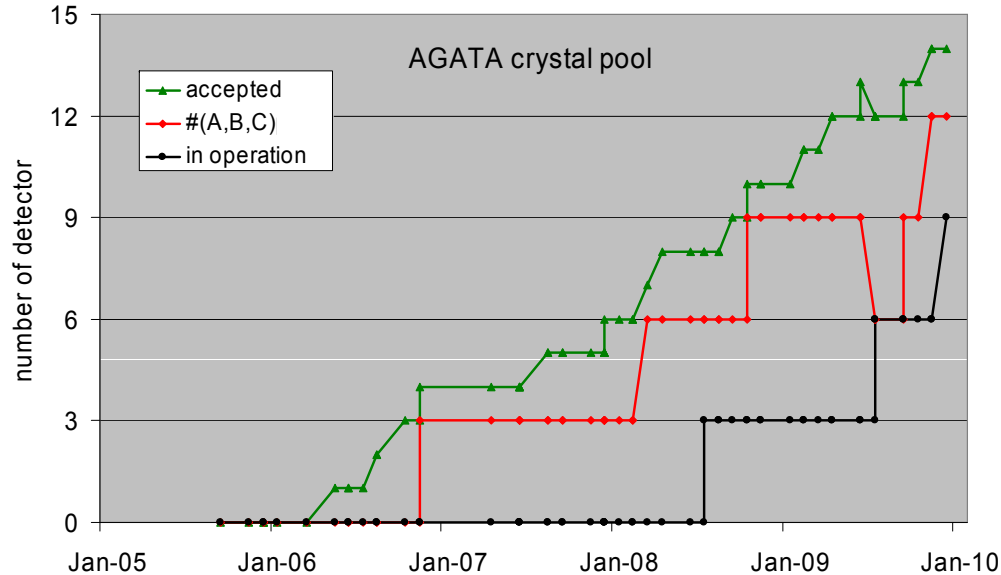
See talk H. Hess

Status of demonstrator

Usage of the available detectors -- possible new candidates



Demonstrator



- 14 detectors **accepted** and working
- 4 ATC **groups** available
- 3 ATC's **in operation** at LNL
- ATC5: hardware at IKP, B det. missing
- ATC4: at IKP – problems with C003
- ATC3: 400d / 72d – problem with B006
- ATC2: 500d – grounding revised
- ATC1: 600d – learning period

AGATA Testcryostats

Distribution of 6 Test cryostats:

- Cologne: 1 (CAT) + 2 revision (GSI & Padua)
 - Saclay: 1 (CAT)
 - Liverpool: 2 (CAT + Scan)
- Liverpool increases CAT capability
- Which detectors go to Saclay / Liverpool?

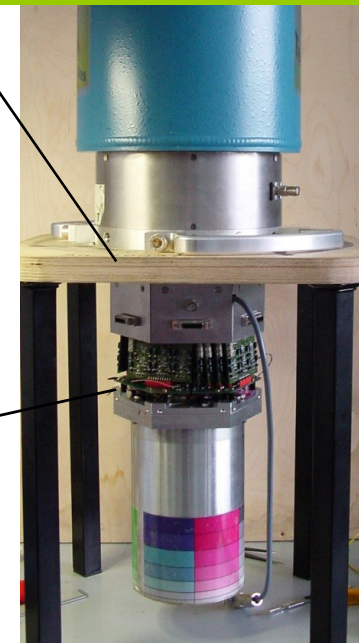
Near future deliveries by Canberra (14/01):

A007 (new) late January

B006, A008 (new), B004 February

B007 (new) late March

Oldest testcryostats need update for compatibility with final grounding concepts ATC's



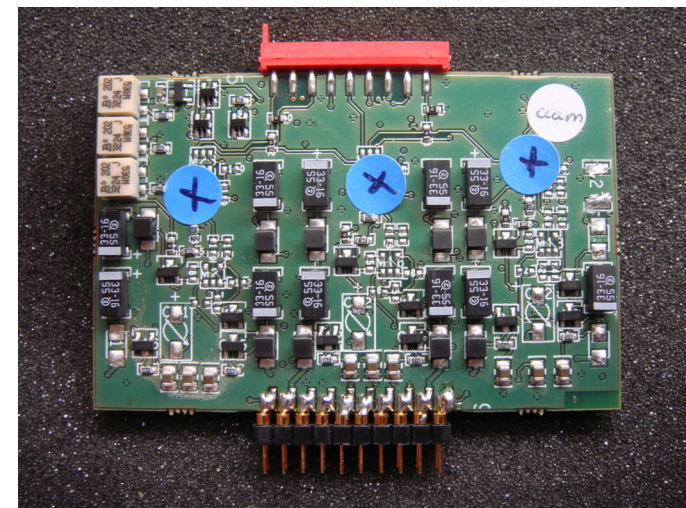
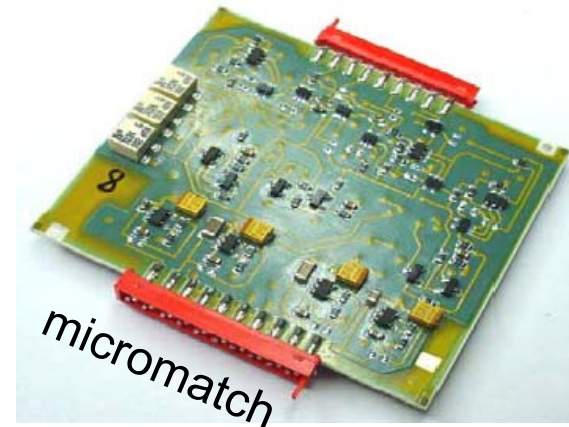
AGATA cryostat - upgrades

ATC3: an upgraded detector

- Milano preamplifiers
- Preamps with Fisher connectors
- New break-proof wire type in cold part

- Fisher connector approved by preamp group
→ from ATC6 on: all preamps with Fisher connector
(-> + new pcb including proposal by grounding group)

- Need to talk about heating out the ATC's 1 and 2
- Need to take in operation LN2 monitor (see Talk D. Lersch)



Fisher connector

AGATA at IKP - webpage

<http://www.ikp.uni-koeln.de/research/agata/> :

Institut für Kernphysik | Universität zu Köln Suche:

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AGATA - Customer Acceptance Test

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[People](#)

[Links](#)

Detector overview

An overview of all detectors can be found in [overview.xls](#).

Accepted detectors

Manuals

[manual_A001_SN73952.pdf](#)
[manual_A002_SN74030.pdf](#)
[manual_A003_SN74009.pdf](#)
[manual_A0040_SN74064.pdf](#)
[manual_A005_SN73949.pdf](#)
[manual_A006_SN74096.pdf](#)
[manual_B001_SN74034.pdf](#)
[manual_B002_SN73979.pdf](#)
[manual_B003_SN74026.pdf](#)
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Reports

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[report_A003_SN74009.pdf](#)
[report_A005_SN73949.pdf](#)
[report_A006_SN74096.pdf](#)

AGATA - Download

Detector Simulation Software ADL

To access the files you will need a password. Please [contact us](#) to get access.

Download Software:

Latest Version	ADL 2.0	ReadMe.pdf
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If you only want to read libraries, this is overkill. Then Look at this:

Read/Write help	ReadWrite.zip	Read About It
---------------------------------	-------------------------------	-------------------------------

How to choose space charge parameters for your simulation:

Read/Write help	SpaceChargeEst.xls	Read About It
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Download Simulated Libraries:

ATC1

Library for A001	A001_1mm_lib.tgz	Read About It
A001 Lattice Scan I	A001 Lattice Scan I	Read About It
A001 Lattice Scan II	A001 Lattice Scan II	Read About It
A001 Space Q Scan I	A001 Space Q Scan I	Read About It
B002 Lattice Scan I	B002 Lattice Scan I	Read About It

AGATA crystals - evolution

