

Draft Minutes AGATA Management Board

9th June 2011, GSI 9:30 to 17:00

Present:

A. Boston
G. Duchêne
E. Farnea also LNL local project manager
A. Gadea
A. Korichi
B.Cederwall ASC chairperson
P. Reiter
J. Simpson
J. Nyberg
H-J. Wollersheim GSI local project manager

1. Apologies for absence

2. Minutes of the last meeting, April 11th, GSI Darmstadt , Agata/AMBMin/Apr11/02D were accepted as a correct record of the meeting. **Action** AG to distribute as Agata/AMBMin/April11/Final

3. Matters arising from the last meeting and actions outstanding from last phone conference

Action: A.G., E,F, Attempt to allocate enough GTS mezzanines and AGAVA cards to deliver a small test tree to GSI.

Ongoing,

Action: A.G. to prepare the layout of the installation plan

Action: All to produce a plan for moving and installation of the AGATA array at GSI. A clear schedule should be produced as soon as possible.

Ongoing

Action E.F. : it was decided to give high priority to the repairing of the Carriers delivered to LNL. E.F. to check the status.

Ongoing

Action A.G.: check with N. Karkour how to proceed with the obsolete components of the Carrier Card.

Done

Action E.F.: to organize the acquisition of a “standard” data set with the 60Co source and the full Demonstrator.

To be scheduled, the issue of the positioning of the source solved

Action A.B: to include J.Nyberg in the Data Analysis Mailing Lists

Done

Action G.D.: to follow the AGATA Database meeting organization

Ongoing: groups contacted

Action J.N. : to contact M.Bentley and W.Korten to ask them to circulate the information and encourage the spokespersons to join the simulation VC.

Done

4. ASC report/issues

ASC actions on the AMB to be completed:

- Project definition for Early phase 1
- Double Cluster Proposal.

Financial issues:

P.R. reports that the BMBF in Germany is organizing a meeting to decide the financial support for projects. There is a risk that AGATA is excluded again. The operation costs have been criticized by the Ministerium. The signature of the MoU by all partners is very important.

Action G.D. and French ASC members: to discuss with the IN2P3 authorities the signature of the MoU.

Action ASC Chairperson: to discuss with representatives of our community in the BMBF meeting encouraging the inclusion of AGATA in the next BMBF call.

5. Reports from Working Groups and status of the LNL Campaign

a. Detector module and characterisation

Meetings

- Detector working group phone conf. at 1. June

Overview AGATA detectors

A001	73952	ATC4	Legnaro - ATC4
A002	74030	ATC3	Legnaro - ATC3
A003	74009	ATC2	Legnaro - ATC2
A004	74095	ATC5	Legnaro - ATC5
A005	73949	IKP	Neutron damaged, needs annealing
A006	74096	ATC1	Legnaro - ATC1
A007	74108	Canberra	Repair
A008	74108	IKP	ok
A009	74209	Saclay	CAT ongoing at CEA
B001	74034	ATC1	Legnaro - ATC1
B002	73979	ATC4	Legnaro - ATC4
B003	74026	ATC2	Legnaro - ATC2
B004	74010	Canberra	repair
B005	74065	ATC3	Legnaro - ATC3
B006	74076	Canberra	repair
B007	74208	IKP	repair
B008		IKP	ok
B009	74207	Liverpool	Legnaro - ATC5
B010	74202	IKP	CAT ongoing at IKP
C001	73899	ATC3	Legnaro - ATC3
C002	73951	ATC4	Legnaro - ATC4

C003	74013	ATC1	Legnaro - ATC1
C004	74036	IKP	Legnaro - ATC5
C005	74033	ATC2	Legnaro - ATC2
C006	74115	ATC5	repair
C007	74164	IKP	to be returned to canberra
C008	74220	Liverpool	CAT ongoing at Liverpool

Latest delivery by Canberra since AMB meeting in April :

- B008: 17.5.11 new detector
- B010: 1.6.11 new detector
- C008: 21.4.11 new detector

Available detector types

A-type (9 deliveries):

- five detectors mounted in ATC1-5
- A005 needs annealing
- A007 broken at Canberra
- A008 detector tested and within specs
- A009 CAT ongoing

B-type (10 deliveries)

- five detectors mounted in ATC1-5, one out of specs
- three broken, B004, B006, B007 at Canberra
- B008 tested within specs
- B010 CAT ongoing

C-type (8 deliveries)

- five detectors mounted in ATC1-5
- C006 broken at Canberra
- C007 failed in ATC5 at IKP, has to go to Canberra for repair
- C008 CAT ongoing

Customer acceptance tests

Detector A009: CAT ongoing at CEA, due to repair of test cryostat

Detector B008: CAT completed at IKP, detector within specs

Detector B010: CAT ongoing at IKP

Detector C004: CAT done at IKP

Detector C008: CAT ongoing at Liverpool

Status of AGATA triple detectors

ATC1 @ Legnaro

Detectors: A006, B001, C003

ATC2 @ Legnaro

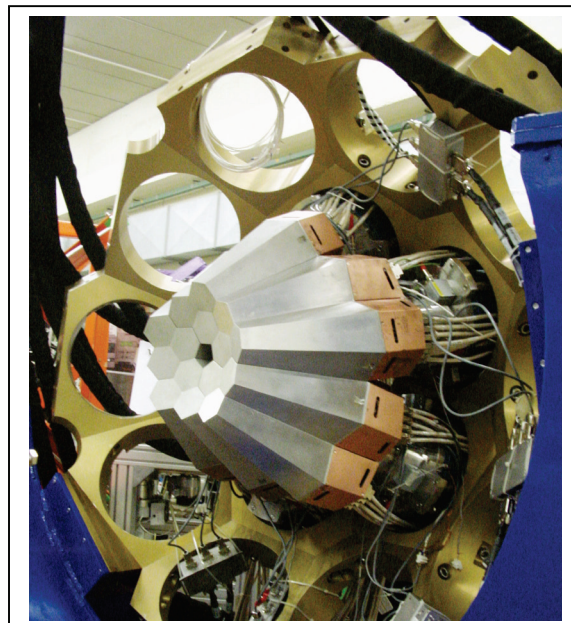
Detectors: A003, B003, C005

ATC3 @ Legnaro

Detectors: A002, B005, C001

ATC4 @ Legnaro

Detectors: A001, B002, C002



ATC5 @ Legnaro
Detectors: A004, B009, C004

ATC6:
Hardware (cryostat and preamplifiers) delivered and electronic tested at IKP

ATC7:
Hardware (cryostat and preamplifiers) delivered and electronic tested at IKP

ATC8:
Hardware (cryostat, dewar, no preamplifiers) at CTT

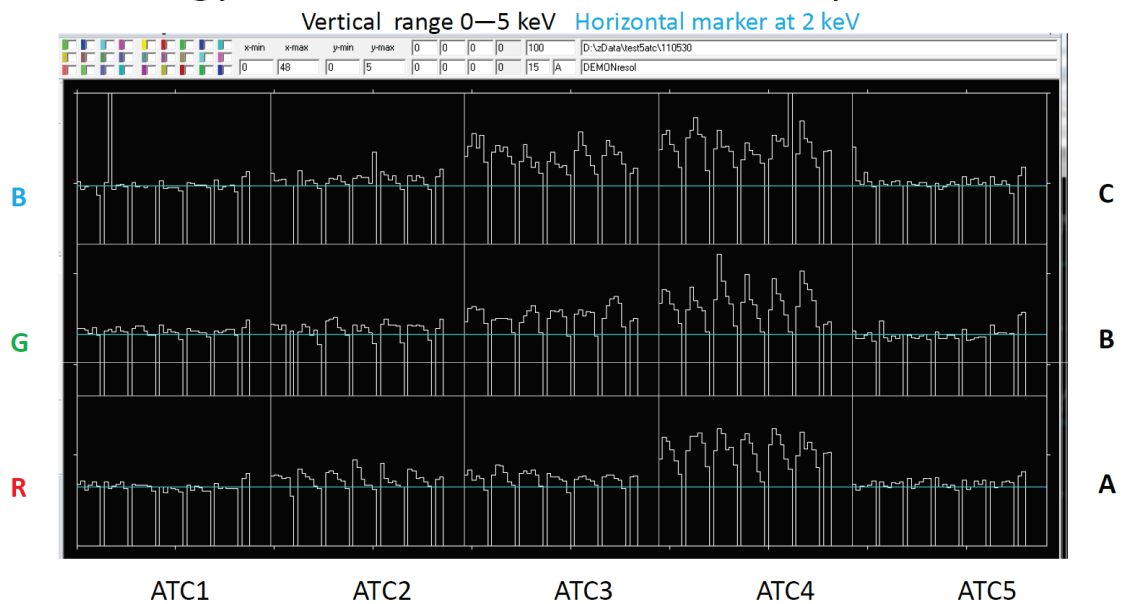
AGATA single test cryostat, detector S002 @ GSI

Successful in-beam test experiment at FRS, GSI with relativistic ions employing the dual core preamp and time-over-threshold technique for high energy signals

Update CTT by H.G. Thomas on double cryostats, 8. June 2011

Hardware of three double cluster detectors finished by Cynel, delivery next week to CTT

Energy resolution of the 5 TCs, May 30, 2011



A.B. informed that C008 CAT is ongoing quite well. All segments but one seem to be ok and the one not working is due to a broken cable. Small leakage current noticed in the central contact to be confirmed.

ATC6 will be mounted as soon as C008 is ready and will replace ATC4.
ATC4 problems are with high probability due to the cryostat.

CAT issues:

In the recent telephone conference all three laboratories performing CAT test have concluded that, to speed up the CAT procedure, the crosstalk test should be excluded from the CAT.

The only observed problem with Crosstalk have been always related with the cryostat and never with the capsules.

The crosstalk test during the CAT is very time consuming, while in the AGATA setup, can be performed very easily. It has been suggested to postpone the test from the CAT to be performed during the characterization process during the installation in the setup. To be on the safe side, we have to be sure that the characterization in the setup will be performed within the warranty period.

It is important to check the specifications regarding the CAT and to get the agreement of Canberra to change the CAT procedure. We will need a written statement.

Action P.R. to check specifications and to investigate with Canberra the possibility of postponing the Crosstalk test to be performed in the setup. (This should only apply to all capsules ordered after the new agreement with Canberra. Up to that date, we have to continue as written in the current specs document.)

Delivery of the last Turkish capsule B004 announced for July.

Cryostats:

The hardware of three (?) Double Clusters is expected at CTT next week.

Discussed with CTT the minimum time necessary for production of the remaining AGATA double cluster cryostats. We should consider delivery times of the order of 6 to 9 months.

The AMB discussed the issues with the cryostat feedthroughs, many ATC with problems that are solved by repair. If no action, the AGATA collaboration will continue purchasing cryostats that may have an engineering problem. The new feedthroughs have a high extra costs.

Saclay test cryostat used for the GSI in-beam test has been upgraded by CTT (core part changed). To be sent to Saclay with A008 for a CAT. Could be scanned at Orsay after the CAT.

Action P.R. to discuss the issue of the vacuum leak with CTT

Scanning Tables:

A.K. suggested to give again priority to the scanning work and to deliver as soon as possible (i.e. after replacement of ATC4) capsules to the scanning laboratories.

b. Front-end Electronics

Status at LNL:

All electronics channels working. The synchronization problems found to be just loose connections of the optical fibre. Still some ATCA carriers show problem to restart after power off.

Production of the Early phase 1 electronics:

The three Digitizers purchased by INFN will be delivered at the end of the month. The test of the remaining eight is proceeding.

The pre-processing mezzanine production is ongoing and there are no problems foreseen.

The production of the carriers has become a real issue. As mentioned in previous VC, there is an obsolete component that is near impossible to find. The plan to overcome this problem is:

- get 4 components from broken (non repairable) or prototype carriers
- Produce the 4 carriers V4 necessary to design the test of the production to be performed by the company
- This will give some extra time to find the obsolete component in the various markets.
- If the component is not found within 2 months, the design of a patch will be necessary.

Status of the Future Electronics projects:

Presently none of the two groups with ideas for the future electronics has submitted the specifications required. They are "too busy". We will postpone the deadline for the specifications, probably to the AGATA week.

Efforts are being done to restart the periodic meetings of the Working Group.

c. Data Flow

Status report on the EDAQ at Legnaro:

- some (3) ATCA carriers have problems to restart after a power cycle; Damiano will try to fix them, in particular carr27 (the slave of 5R).
- On a few readout machines we need to disconnect the power cord after restarting the ATCA electronics: narval08(Linco1), narval12(linco2) are the worst cases but sometimes we have to do it also on narval04, narval05 and narval16.
- Narval12 has been moved to Padova for a deeper investigation of the problem.
- Studying the possibility to move the kvm close to the visu3 control terminal. A remote login would also be sufficient

As mentioned before, the de-synchronisation of data from the digitizers of 5R and 5B problem was caused by badly inserted optical connectors. Now the system is stable and there is less urgency to have the global slow control automatically sending the re-synch command.

The data transfer to the agatadisks is now limited to a total of ~65 MB/s, corresponding to a maximum event rate to ~1 kevents/detector.

To improve on this side the odd-numbered narval nodes were mounting /agatadisks on narvalds1 while the even-numbered ones were using narvalds2.

At the moment all of them see agatadisks on narvalds1. After updating narvalds1 to squeeze it should be checked if it is possible to distribute the mounting points again, maybe sharing also with narvalds3.

agatadisk is almost full: this is a recurrent problem which we normally solve by deleting (archived) data just-before or during the experiments. If we continue the storage of the raw data (probably we should do it for long time).

Studying the possibility to upgrade of the storage: replace the 1TByte units by a 2 TB ones 25 K€ needed

Actions done since last VC:

HP Viewer installed on VISU3 (Y. Aubert)

Dispatch the mounting points on narvalds1 and narvalds2 (X. Grave)

Upgrade of the GEC : E. Legay needs still extra time and access to the system

DAQ installation at GSI:

Meeting with the local group on 8th June.

Studied the number of rooms dedicated to the DAQ and Location from the FEE and AGATA users

Gateway access: GSI rules for ssh, VPN, elog ... IP's SMTP servers for sending e-mail

Discussed the Data storage and Data Analysis (Disk and Grid)

Discussed the infrastructure resources provided by GSI

Discussed schedule and milestones

d. Data Analysis and Tracking

- Pulse Shape Analysis

Team meeting held on 7th June.

A brief summary of the status of the Liverpool Characterisation work was presented. Coincidence data from A6, C1 and S2 + S3 available in root format. Fabio/Carl discussed joint analysis of PSC method. Fabio to supply additional analysed data to the team.

Introduced the issue of smaller image charge than expected observed from the C001 coincidence scan data analysis.

Implementation of proportional and differential cross talk utilising David Radford method was presented. Implementation in Narval developed by Andrew Robinson will be made available.

D.Bazzacco presented the status from LNL.

- 5 ATC 60Co calibration data recorded. Source positioned in wrong position. Calibration 50M events per crystal. Source not in centre (1.6cm).
- 50% speed up of the grid search algorithms reported (implemented as vector instructions in the CPUs).
- Performance P/T for 60Co 19% for the average crystal.
- Apply tracking [NOT PSA] 38 – 40% P/T
- Improvement on the application of PSA in progress, more time before definitive value.
- In comparison with figures from MC simulations work needs to be done here. Enrico is repeating some simulations.

Bart reported a new version of ADL (v3) is now available from IKP website. Provides much the same functionality but with improved user interface.

Roman reported Stephanie (PhD student) finished her thesis. Position resolution achieved 3.5mm. Utilised JASS & ADL bases. Performance difference is very small. Document to be made available from website.

Michael reported updated version of JASS available, which include a fix for the crystal orientation. Michael to arrange for Carl to utilise new version.

Neural Network algorithm has now been converted into standard C. This can now be used with Narval. There is an issue with multiple processing of the same event. Dino and Michael to resolve. The issue is perhaps associated with the use of an older version of Narval.

- Data Analysis (received from Olivier).
 - few bugs corrected + some useful features (automatic save/zero of spectra in Watchers) in Gammaware
 - important modifications of the ADF library to be multi-thread safe for D.Bazzacco emulator
 - A first try to have an automatic building system for the data processing libraries + first documentation for user's (see pdf joined)
 - next step is to add another building system (based on cmake, D.Bazzacco suggestion)
- Tracking (received from A.Lopez-Mertens)

For the 60Co data taken in April 2010 with 3 ATC's and with core-correction applied, I get the following values of P/T and tracking efficiency (when no single interactions are tracked):

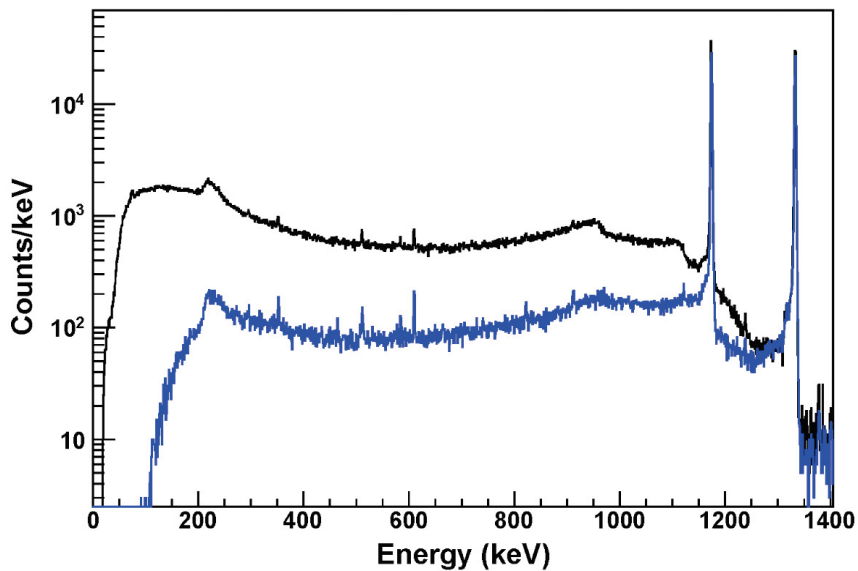
The raw crystal and tracked spectra are available

- raw spectrum: P/T = 16.8%
- Tracked spectrum: tracking efficiency: 84.5%

The tracking efficiency is defined as the ratio of the peak intensity in the tracked spectrum to the one in the raw crystal spectrum

- P/T>0 keV: 53.9
- P/T>100 keV: 53.9
- P/T>200 keV:54.6

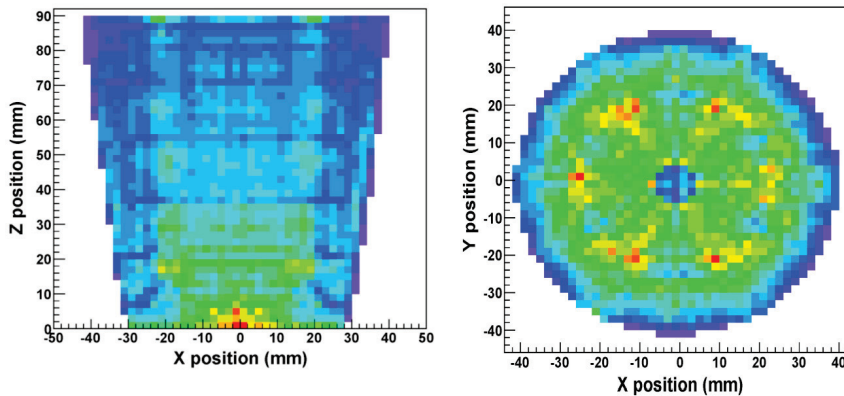
The P/T is taken from the indicated threshold all the way to the top of the spectrum (i.e way past the peaks).



(These values are obtained with the oft σ_{θ} parameter, which maximizes the product of the efficiency and P/T for low and high multiplicity results (this is done by combining many ^{60}Co events). The magnitude of the parameter seems to indicate that the average position resolution is larger than 5 mm (by a factor 2.4), which is in line with what we expect after looking at the interaction position distributions: They are rather clumpy and definitely NOT uniform. They are smoother in x,y than in z (this would explain why the Doppler correction is working and yields an effective pos. res. of 5 mm).

Also visible is the cluster of interaction points at the back of the detector....which we cannot reproduce in the simulations with the current hardcoded cryostat wall thickness (supposed to mimic the presence of the Dewar).

The magnitude of the backscatter peak, on the other hand, is well reproduced by including PRISMA in the simulations).



e. Simulations and Commissioning

Simulations:

No much response from the call to the LoI spokespersons.

Action A.G. to remind the spokespersons, in the meeting of the Prespec LoI on Friday 10th, that the simulation W.G. is there to help and they should answer the calls.

Done

Commissioning:

C.Domingo Pardo is preparing an update of the commissioning proposal that will be distributed to the local group as soon as possible for comments

Action J.N. to ask C. Domingo Pardo to provide as soon as possible the draft proposal to the local GSI group as well as to the GSI Campaign coordinators.

f. Infrastructure

Meeting of the Detector and Mechanical Infrastructure W.G. tomorrow 10th June in GSI.
The most urgent issue is to prepare the installation plan for the mechanics and infrastructure.
The W.G. will complete the list of existing and missing infrastructure items for the GSI installation. The action to prepare a DSS prototype for GSI is ongoing.

G.D. Doodle for the database meeting, including the AMB members has been distributed. AMB members consider that this topic has been extensively discussed in Uppsala AGATA week. GD cancels the face to face meeting and organises a video conference in the infrastructure team. GD demands to the AMB members to still have a look to the existing documents and comment whether things should be that much detailed in the database.

g. Complementary detectors

No news on complementary instrumentation.

6. Status at Legnaro

LINAC experiments starting now and all seems ok.

It is not good the situation with the PIAVE injector not yet clear if the experiments scheduled in July will be performed. More information will be available after 20th June.

7. Status of the GSI Phase

Discussion on the GSI Working Together document:

One correction in the GSI organization figure has to be done
P.R. Suggested that the GSI Detector support group is represented in the GSI scheme with a dedicated contact person. The suggestion is accepted by the Local Project Manager and the AMB.

Discussion on the layout of the installation plan

The early version of the project plan layout is presented and accepted.
Feedback required from the AMB W.G. chairpersons.

Discussion on the possible AGATA-GSI agreement document

The draft of the working document distributed. It will contain the Basic information on the agreed project plan, on the use of the installation costs and the use of the operation costs.

News on the GSI installation investment proposal

The AGATA collaboration can not finance the full mechanical infrastructure of the setup at GSI. Since the mechanical infrastructure is host dependent and, in principle, should be part of the installation costs, a contribution from GSI is requested.

The Local Project Manager agreed to include part of the mechanics in the installation cost:

Mechanical parts	~20 k€	GSI Installation Costs
Digitizer Frame	16.2 k€	GSI Installation Costs
Cable Coiler	8.2 k€	GSI Installation Costs

Swinging Gantry	13.8 k€	GSI Installation Costs
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The GSI Local Project Manager requested the confirmation that the mechanical frame, excluding flanges, will be only used at GSI.

News of the GSI Working Packages
No relevant news

8. Resource Manager Report

Update of the AGATA Early phase 1 project definition:
discussion on updated investments for 2011, including the 90.7 k€ needed investments in cryostats, and the 17k€ required for the modification of Triple Clusters into Double Clusters (need to be assign).

Update of the Autofill requires 8 k€

The 20k€ necessary to complete urgent DAQ items, is available in France. The Data Flow W.G. is trying to get better prices for the purchasing of the 25 Pizza Boxes.

Update of Running costs:

Discussion on running costs details. In several items there is a large disagreement with the MoU distribution, for example Other Repairs is considerably high and the Detector Lab. related operation costs have been very high due to the warming up repairing work as well as the small costs of the pre-amplifier developments.

In 2011 has been added the cryostat Maintenance that was not explicitly mentioned in the MoU table.

The projection of the last two years produce high operation costs in the near future, nevertheless they agree with the MoU. They might be space for Operation cost reduction when having more information on the reliability of the encapsulated detectors as well as with the improvement of the vacuum issue of the cryostats. It was agreed that a replacement of a non working capsule by a new one is not to be included in the Running Costs.

Realistic operation costs, necessary for MoU beyond 2012 are requested by ASC.

New document to be distributed.

9. AMB organisation

No news

10. The Proposal for the AGATA double Clusters:

Action P.R. to check costs and to perform last corrections to the last version.

11. AGATA Technical Publications,

AGATA NIM:

Consistent progress in the last weeks, almost ready to be distributed.

Agreed alphabetical order for the authors.

Other AGATA Technical publications:

2 papers from TU-Munich submitted for checking, they are excellent and it was agreed to recommend the authors to go on with the publication.

Action A.G. to send an e-mail to the AGATA collaboration to explain the AMB revision procedure of the technical papers

12. Discussion on the next (11th) AGATA week

Web page layout is ready.

Action for all: to prepare detailed contributions and parallel session required by every W.G. teams.

13. AOB

14. Date and location of next meeting and dates of phone conferences.

Next AMB meeting 5th September at GSI starting 13:00 (H.-J. W. to organize)

Phone conferences / Lyon system (GD to organise)

22nd June 2011, 10.00 CET

6th July 2011, 10.00 CET

24th August 2011, 10.00 CET