Minutes

Charissa Group Meeting

Meeting held on: 1 May 1996

Meeting held at: Birmingham

Present:	BRF(Chair),WNC,SPC,NMC,RAC,NC,MF,SJH,RAH,P.Jagpal JSL(Items 13,15,16),ACM,JTM,VP,WDMR,GT,RPW,DLW
Distribution:	Those above plus JK,DDW, all by e-mail/file-server

Minutes

1. **Apologies:** JSL apologised for missing early items due to teaching.

2. **Minutes of meetings of 11 Oct 1995 and 24 Nov 1995:** accepted.

3. **Matters Arising:** From the 11 October minutes,

   Item 7: *ANU beamline installation:* written confirmation had been received that insurers would pay for damage in transit; repairs had been completed and reimbursement was now being pursued through Daresbury.

   Item 10: *Detector stocks:* the necessary strip and sheet detectors had been ordered; new strip detectors have pins at right-angles to board.

   Item 16: *WWW pages:* these now have password restricted access.

4. **Update on EPSRC matters:**

   The Shotter review was received by collaboration members at the end of April.

   Grant requests had been submitted by all groups and confirmation of decisions was expected for mid-August 1996.

   Neil Williams had set up a small working group under W. Gelletly on Radioactive Nuclear Beams which includes MF.

5. **Progress on MEGHA hardware tests at ANU:**

   i *Cabling:* JTM has ordered 128 cables to connect from the 2m chamber to the MEGHA chamber. No new patch panels are planned.

ii Schedule: SPC tabled the suggested dates, to be confirmed that afternoon with D.C. Weisser (ANU). Arrival was on 15 June and it was agreed to hae one physics run (NC and MS data) with the 2m chamber. A 3-day MEGHA physics run was envisaged for the period 12–24 July.

iii Personnel: SPGC, DLW, NC, SJH, JTM, G.Dillon, R.Cowin, M.Shawcross, C.Freeman plus BRF on study leave.

iv Aims and Objectives: Tests will be for a fully instrumented central module, 3 telescopes on each flanking horizontal module and the other two module positions blanked off (but the modules are at ANU). Tests should be completed by the Linac Inauguration, 11 July 1996.

A full list of detailed objectives will be prepared. $\boxed{\text{SPC}}$

v Accommodation: NC to coordinate and book. $\boxed{\text{NC}}$

vi Shipments: It was agreed to have two shipments.

One shipment would comprise permanent items only, including computing, and would be sent from York by 7 June. $\boxed{\text{SPC}}$

Another would be items just for this running period, to return to the UK, and would be coordinated by Surrey. $\boxed{\text{NC}}$

A special shipment is required for items needed at the start of the setting up; specifically, mains distribution boards to bolt to racks. $\boxed{\text{SPC}}$

Birmingham to liaise with SPC on provision of tested mains boards. $\boxed{\text{NMC}}$

A list of computing items for the tests and the experiments to be drawn up with regard also to MEGHA electronics tests in Birmingham. This list to be circulated by email for discussion. $\boxed{\text{SJH}}$

Decisions needed on permanent and temporary computing items for the shipments. $\boxed{\text{SJH,NC,SPC}}$

Discussions regarding a detector and equipment inventory, and email distribution lists are included under Any Other Business.

6. **Progress on MEGHA read-out tests at Birmingham in July:**

A full MEGHA data acquisition system would be installed in Birmingham for tests in July.

A meeting (27 March, Birmingham, notes circulated by BRF) had discussed details. RAH and SJH were cooperating on arranging tests for each hardware item. VP and SJH were liaising on VME control of amplifiers and HV supplies. SJH reported that the Birmingham test facility needed to expand to accommodate 3 racks of amplifiers for the full tests.

RAH reiterated the need for extra help at Birmingham for the tests. The replacement for SJH (applications due 31 May) would be full time on the tests. MF agreed to provide the necessary additional support during the transition period. $\boxed{\text{MF}}$

i Amplifiers: PJ reported that orders were placed for 200 and 50 had been delivered. Orders for crates had been placed from Birmingham and Surrey (confirmed by WNC). On schedule for delivery by 1 July. IC's for amplifiers to be plugged in at Birmingham using PhD student assistance. $\boxed{\text{PJ}}$

ii Other new units: CATER units arriving in stages at Oxford, 20 delivered so far, rest due by 28 June. RAH has a schedule for testing units as they arrive. A 32 group was delivered to Birmingham on 1 May.

CAMAC devices are presently simulated by a programme in a STARBURST processor. The FIACRE (CAMAC reader) had been checked at ANU and since modified. The TAIL (amp controllers) were being modified. This work is going on in parallel with the CATER tests and is on schedule. As a fallback, the STARBURST unit could cope with reasonable effectiveness. $\boxed{\text{RAH}}$

iii Readout to VME: still to be tested. $\boxed{\text{SJH}}$

iv Trigger Module: this requires a patch panel to be built in York by 30 June. $\boxed{\text{DLW}}$

Lecroy universal logic units would be linked to give the trigger. This will be developed separately and will plug into the test system at Birmingham. $\boxed{\text{MF}}$

v VME control: development still required to complete the control of the amplifiers and HV supplies. $\boxed{\text{VP}}$

In addition to the above, the following points were noted:

- There is a *clash* between equipment requirements for the tests at Birmingham and the experiments at ANU in June/July,
- If any problems arise in the tests at Birmingham, the tests should continue there until the problems are solved,
- The shipment of the DA system to ANU should be *by air*.

7. **Discussion on plans for MEGHA commissioning at ANU:**

The arrival of the DA system at ANU is anticipated before 20 October. BRF will be at ANU from June 1996 to January 1997 and will coordinate installation and commissioning. $\boxed{\text{BRF}}$

Full beam tests of MEGHA are anticipated for November/December, and will hopefully be followed by physics runs to provide thesis data for C. Freeman and G. Dillon.

During the period of the MEGHA tests, parallel runs in the 2m chamber could take place.

The existing DA system is to stay in place until the new system works.

8. **Report on recent GANIL run:**

WNC reported that WNC, NC, NMC and MF had collaborated in an experiment using the SPEG spectrometer between 2 and 29 April, with LPC Caen, GANIL and Orsay. The experiment had measured the longitudinal core momentum distributions in the breakup of the halo nucleus ^{19}C and, simultaneously, the adjacent isotopes ^{18}C and ^{17}C. The intensity of ^{17}B had been too low to also include a measurement on that nucleus.

9. **Progress on GANIL array and read-out:**

   NMC reported on progress with the design of preamplifer boxes that will use MEGHA style preamplifiers in boxes of 8, 16 or 32 channels, for use primarily at GANIL or with the strip version of MEGHA. A document by NMC was tabled, with details of specific items requiring attention. Detailed connector information and requirements need to be known.

   The details of the coaxial ribbon cables used at Strasbourg, believed to be the same as used at GANIL, should be forwarded to NMC. DLW

   A meeting should be called with at least WNC, MF, NC and NMC present, to decide the final design for GANIL, with a view to compatibility with ANU strip detector running and longer-term GANIL running. NMC

10. **Report on recent Strasbourg visit:**

    BRF reported that he and DLW had visited Strasbourg on 22–23 April to discuss possibilities for future experimental running with N. Rowley, F. Haas and others. It was their view that a serious exploration of these possibilities should be further pursued. These options were further explored at Item 13.

    A document produced by BRF and DLW and circulated prior to the meeting was discussed.

11. **Discussion on future ANU running:**

    DLW reported that the next IOP meeting would be held in York from 7–9 April 1997. This period would ideally not be used for experiments.

    BRF requested each group to clarify its needs for running at ANU in the period November 1996 to February 1997, in the first instance. ALL

    BRF noted that requests for Feb 97 to Feb 98 were due in six months (approx. Oct 1996). Requests could be for MEGHA or for the 2m chamber, subject to the data acquisition situation.

    It was noted that the EPSRC will be reviewing the ANU agreement in 1997.

12. **Discussion on future GANIL running:**

    The next running period would be requested for September 1996 for the coupled experiments E264 (^{12}Be) and E259 (^{11}Be). The experiment would use a ^{11}Be beam together with an array of silicon detectors.

    The following are necessary for the September running: a PCB to hold sheet resistance detectors, vacuum feedthroughs and cables for the silicon signals, 64 channels of preamplifiers and amplifiers. Ideally a 64 channel DA system is also required for parallel acquisition with the GANIL system. A VME crate and

VME modules are required for the DA system, and this may clash with the requirements for MEGHA testing at Birmingham.

A meeting is required to advance the plans for September. **WNC**

For the longer term, a 256 channel system has been requested in the grant round, along with 2 MEGHA modules, some strip detectors, and some detector development. Future developments, such as the precise method to integrate with gamma detectors, depend on the outcome of this application. Top priority in the items requested is the electronics for the signal amplification and processing, which was viewed as a vital ingredient to a successful programme.

13. **Discussion on future Strasbourg running:**

A meeting should be called to finalise a list of the beam species, intensities and energies required for likely Vivitron experiments. **JSL**

JSL will likely spend time in Strasbourg in the period Oct–Dec 1996. This would be a good time to complete detailed commissioning tests of the Charissa beamline. Experience from early experiments should help to assess the capabilities of the facility.

RPW reported that the beam for his 1994 approved proposal for ^{6,7}Li breakup could not, in the end, be provided at Strasbourg and the experiment will run at Florida State on 9 September 1996.

The existing 64-channel data acquisition system will be moved to Strasbourg for runs there, if the programme develops. The scheduling at GANIL would be the determining factor in establishing when the system could be at Strasbourg.

14. **Discussion on organisation of collaboration:**

BRF suggested that the requirements may have changed with time and that it was timely to reconsider the situation.

i Sub-group Meetings:

It was acknowledged generally that the activities of the collaboration were becoming more diverse. This meant that, simultaneously, it was desirable to pursue some detailed matters outside the main collaboration meeting and it was essential to maintain general collaboration meetings so as to manage resources within their sensible limits, and keep everyone in the collaboration informed of developments. It was noted that the frequency of *ad hoc* meetings to discuss specific matters had increased through natural demand and they had been successful. The best way to ensure continued success was agreed to be by assigning responsibility for calling meetings in various areas to specific individuals. Attendance would be open, meeting times advertised to everybody, and conclusions circulated by email to *char-meeting@nnga.daresbury.ac.uk*. The agreed areas of responsibility to begin with were:

GANIL experimental programme. **WNC**

Strasbourg experimental programme. **JSL**

Data acquisition and electronics. $\boxed{\text{SJH}}$

Data analysis development. $\boxed{\text{NC}}$

MEGHA hardware matters. $\boxed{\text{SPC}}$

ii Spokesperson Position:

It was agreed that there was a need for someone to fill this role, which has evolved over recent years. It includes overall management responsibilities, including budget matters, grant matters, resources management and coordination of experimental proposals. It was agreed that BRF should continue in this role until after the review of the ANU agreement. The situation could be reviewed late in 1997. $\boxed{\text{BRF}}$

iii Document Server:

A renewed effort should be made to make any circulated documents available on the server. NC will take over the duties for documents, technical reports and publications. $\boxed{\text{WNC,NC}}$

iv On-line Inventory:

The discussion highlighted again the need for this inventory (see Item 16). $\boxed{\text{RPW}}$

15. **Progress on papers**

The table attached to the minutes was updated.

16. **Any Other Business:**

   (a) *Inventories:* this was discussed under Item 5 at the meeting. It was agreed to establish an inventory on the WWW, starting now with MEGHA detectors. A trial system would be installed. $\boxed{\text{RPW}}$

   Eventually, the system could include strip, sheet, scintillator and sundry silicon detectors, windows, grids, amplifiers, preamps, crates, preamp boards, etc. It is likely that people who move or modify items will directly edit the log files.

   (b) *Email distribution:* the distribution lists at Daresbury need updating. WNC to collate and forward revisions to VP. $\boxed{\text{WNC,VP}}$

   (c) *S.J. Hall:* Steve Hall was thanked (Item 6 discussion) for his continued contribution to the MEGHA system tests, following his new appointment to a different post at Birmingham.

   (d) *EPSRC student travel:* The contents of a letter sent by Neil Williams on 12 April were noted. The letter requires clarification about approval of programmes. $\boxed{\text{DLW}}$

   (e) *Collaboration Funding:* MF had submitted an application with WNC, NMC and NC to the British Council. The request is for travel funds to support 2 visits each to GANIL and 2 reciprocal visits by collaborators at LPC Caen. If approved, seminars will be arranged at Surrey and Birmingham.

17. **Date of Next Meeting:**

xxxday, xx xx 1996
Somewhere

W.N. Catford, Secretary. May 3, 1995 (released May 7, 1996)

Attached: table 1, summary of work in analysis for Charissa, 1 May 96.

Table 1: Status of analysis on Charissa work

Description	Status
Outstanding from NSF Running	
Band termination (York)	Simon Fox to look at
^{12}C on ^{24}Mg (Surrey)	Completed for SMS thesis; draft paper expected.
^{24}Mg to ^{12}C*+^{12}C (B'ham)	Analysis complete. Draft paper in Birmingham
^{48}Cr to O+O+O (B'ham)	Published.
ANU (Oct 93)	
^{16}O on ^{40}Ca (Surrey)	Completed for SMS thesis; draft paper expected.
^{28}Si and ^{32}S (B'ham)	Published.
^{12}C+^{12}C 0_3^+ (York)	SPGC thesis. Paper published. Second paper on angular correlations accepted.
ANU (April 94)	
^{12}C+^{12}C ex. fn. (York)	CDJ preparing draft
^{12}C+^{16}O ex. fn. (York)	SF thesis submitted. Draft in preparation
^{28}Si oblate (Surrey)	GJG analysis complete. Draft paper being revised by NC. Collaborate with Feb 96 MF for paper.
Tests of DA	
Test of Hybrids	
Test on MEGHA	see July 94
ANU (July 94)	
^{12}C on ^{24}Mg (Surrey)	SMS analysis complete. Limit on cross section. Outline of short paper in preparation.
^{24}Mg+^{24}Mg gammas (B'ham)	Published.
Tests of MEGHA	PL draft prepared for NIMs
ANU (March 95)	
^{16}O+^{12}C to α+α+Ne (B'ham)	GRK thesis. Draft paper circulating.
^{12}C+^{12}C 6–α fine struct (B'ham)	RlM thesis. Draft paper circulating.
^{12}C+^{12}C 6–α O+Be chan (York)	PL thesis. Analysis in progress
MEGHA test + ^{16}O tgt (York)	RC analysing for ^{16}O target paper
^{16}O+^{16}O	MF paper daccepted.
ANU (February 96)	
^{12}C+^{12}C to 6α (York)	SPGC analysis.
MEGHA DA tests	
^{16}O+ ^{12}C to ^{12}C ^{12}C (B'ham)	MF analysis. See also April 94.
^{16}O+ ^{16}O to ^{16}O ^{12}C (B'ham)	JTM analysis.