

MINUTES of the third meeting of the Durham - RAL Database Committee held on Monday, December 17th, 1984, at 10 am in Committee Room 1 of the Rutherford Appleton Laboratory.

Present : Drs P.D.B. Collins, R.C.E. Devenish, Prof A.D. Martin (Chairman), Drs C.J. Maxwell, M.R. Pennington, R.G. Roberts, D.B. Websdale and M.R. Whalley.

AGENDA (prepared by MRW) :

1. Minutes of the last meeting
2. Yearly Report
3. Proposed Programme (1985-88)
4. Discussion of 3.
5. A.O.B.

MINUTES :

Item 1 : Minor amendments were discussed - typographical errors and the Epson printer reported in point 6 of items 2 & 3 had not been installed.

In matters arising from the last minutes MRW commented on networking problems raised in item 5. Now that Durham was to be linked to JANET in the following week and with the subsequent end to Newcastle switching, these old problems would cease and doubtless new ones begin. Liz Miller had now started her maternity leave and a temporary replacement for an anticipated six months had begun two full days and three half days a week and was proving most satisfactory. MRW reported that the Autumn newsletter was now due and DBW raised the problem of the neutrino compilation mentioned in item 5 and asked if anything was known of this beyond the Aachen preprint previously circulated. MRW said he would contact Krenz (the compiler at Aachen) again.

Item 2 : MRW presented the Yearly Report.

Comments were made on the length of the report, but it was agreed that any shortening would detract from its essential message. Attention was drawn to appendix IA which gives information on the number of users, that was some 25% up on the previous year. This usage was broken down into databases accessed - the main conglomerate DATA base being used most. Table 3 of the appendix gives the names of the most frequent users, mainly experimental research students. Graphs of the number of users per month and the length of time of their use was also included, though there was a problem in assessing the real usage time, because of cut-offs due to system failures and not logging out by some users. New access systems will be faster and so the length of time people logged in should decline.

A Comment facility had been included in the past month and several users had availed themselves of this to make useful comments. In response to a question from DBW, MRW estimated that some 50% of particle physicists, who actively use CMS, accessed the database system.

This year 115 papers were encoded at Durham and 56 at RAL. This is the number of papers needed to keep up-to-date in terms of data in existing areas of compilation. In principle, some 300 papers could be encoded, but capacity had to be left for needed systems development, etc. PDBC asked about the response of experimental groups to the supplying of data. MRW reported that this was at 30% as previously.

A general discussion then took place on how to make experimental groups more aware of the database and the data to be supplied, which distributions, what format, etc. ADM emphasised the comprehensive nature of the database in the areas presently included and the importance of maintaining this. Under questioning from PDBC it was agreed that it would be speed response if spokespeople could be told in detail what data they should supply to the database.

Returning to the annual report, MRW listed the improvements to the system made in the year. The amalgamation of the databases had improved response time and eased retrieval. The HELP commands now allowed a user to get information, whilst still remaining in the database system. Moreover, in the deliberate absence of a user manual the HELP facility allowed updates to be made and readily pointed out.

The Service had been publicized by a trip to DESY by MRW and an "advert" in the latest Review of Particle Properties. Collaboration with the Soviet COMPAS group continued and the availability of the database on Spires in the US should increase the usage by US experimentalists and increase their willingness to supply data. LBL had put on Spires their Experiments Database, the Review of Particle Properties (RPP) and within the year our reaction databases. In return we get the RPP and the Experiments Database and advertising to LBL's 6000 users.

The acceptance by the DESY directorate, viz Prof. Söding, that data from DESY should be in the database was discussed. Under questioning from RCED, MRW said that this was just guidance to DESY groups not an instruction. PDBC said that such "guidance" from other laboratories, in particular CERN, would be very useful. It was agreed that the chairman (ADM) would write to Butterworth, Ferro-Luzzi and Klapietich about encouraging groups to submit data.

MRW discussed the plans for graphics; trials of plots for R(ee) were under way, with the hope of being able to zoom into particular energy regions of interest. RCED suggested the inclusion of some graphics in the Yearly Report as an illustration. MRW said the topic of graphics was planned for the next newsletter.

In discussion it was agreed that a copy of the data review on deep inelastic scattering should be sent to all members of the appropriate SERC funding committee. ADM emphasised that the preparation of these reviews was difficult without extra manpower, with reference once again to the Data Officer post agreed but not funded. In the conclusions to the Yearly Report, RCED stressed that the archival role of the database should be paramount.

Items 3 & 4 : Proposed programme and Discussion

RGR discussed future plans for 1985-88. Though it was recognised that the desired progress of the database required the appointment of a Data Officer, it was unrealistic in the present economic climate for this to be funded in the next year. It was however hoped that the Coding Assistant position could be upgraded in the near future.

The programme for the year from October '85 was to include the encoding of data on electron-positron annihilation into lepton pairs. It was agreed that the use of the database as a repository for "lattice gauge" configurations was unlikely to prove helpful, though this proposal from the Edinburgh group would be studied further before a final decision was made.

RGR reported that the aim was to increase still further the "user-friendliness" of the system : to ease the elimination of the necessary words in the records so that data retrieved can be directly slotted into the users' own fortran programs. Access using local machines would also be investigated. At present it was necessary for the user of the database to know the intricacies of CMS, while the definition of "print" statements depended on the local station.

The introduction of the "beginner's guide" had proved most useful and a more comprehensive version with examples was planned, though the way this would become outdated as the system developed was appreciated. RCED suggested that the posters advertising the database should mention the beginner's guide so that potential users knew to what as well as to whom to turn.

The promotional tours by MRW had brought a dramatic increase in awareness and use of the database system. It was agreed that a visit every two years to each UK HEP experimental group would keep each batch of research students informed about the system. Most groups have a dedicated computer person, who could usefully give out information about the database and it was agreed that MRW should contact these people and make them familiar with examples of the database uses. This might overcome the access problem at the larger groups, who tended to use local machines, and not CMS on the RAL mainframes. It was suggested that publicity in the CERN Courier would be useful.

On the subject of international collaborations, RGR reported that the COMPAS group of the Soviet Union had encoded some 100 or so records. In return for this assistance, the PDG databases go to Serpukhov, where the COMPAS group do searches on behalf of users. RGR commented that it was most important that MRW had put the PDG(UK) database on Spires, as he was sceptical that LBL would have found the necessary impetus to publicize the database in the US without this.

On data reviews, RGR remarked that the appearance of the first review on structure functions had been delayed awaiting new results from the EMC collaboration. They had now provided new unpublished data and the review would be available by mid-January '85. The review not only gives the experimental numbers but details at the end of how to access them from the database. Topics for future reviews were discussed: eg

- 1) small angle pp, $\bar{p}p$ scattering with the assistance of Martin Carter, a student at Durham,
- 2) $e^+e^- \rightarrow$ hadrons, $e^+e^- \rightarrow$ leptons,
- 3) fragmentation properties of heavy quarks, production cross-sections, weak mixing angles, etc,

ADM emphasised the need for people outside the database to give advice and guidance on these and other topics. MRW mentioned that he would be starting on encoding lepton information in the database and commented that, perhaps with the help of RCED, they could go onto a data review. Moreover, on the topic of heavy flavours, perhaps the Physics Report by Ann Kernan on hadroproduction of charm could be built on. However, DBW remarked, from his own experience, that it was impossible to get a universally accepted way of defining what was meant by a charm cross-section and this may present insurmountable difficulties. RCED suggested the possibility of a comparison of e^+e^- and hadron production data. In e^+e^- , the initial state was known, but of course there was still the problem of knowing whether charm was a primary or secondary product. RCED thought a list of references on charm production might prove a more fruitful idea than tables of numbers, with a couple of sentences about each experiment, detailing their luminosities, signal, energies, etc. It was proposed that Chris Damerell of RAL and members of the IC group could vet these listings.

On other possible areas for review, RGR suggested the area of hadron production in deep inelastic scattering. DBW asked about the present status of photoproduction data. It was agreed that two photon physics, structure functions and hadroproduction had been largely covered in a review by Kalinowski in a Springer Tract and by John Dainton in conference proceedings. It was agreed to ask Kalinowski what he felt about the use of a data review in this area.

Finally, PDBC asked if users had identified areas that were absent from the database. As discussed at the last meeting, the most notable omission was neutrino cross-sections and the possibility of including these was being studied.

Item 5: Under any other business, DBW mentioned that he had now left the HEP experiment selection panel, and asked should he still be on the present database committee. The chairman said he was a valued member and that as long as DBW had no objection, he (ADM) would like him to remain a member. It was agreed that a member of the present selection panel would also be asked to join and the chairman would look into this.

The next meeting was provisionally planned for Tuesday, May 21st at 2pm in Durham.

The meeting ended with lunch at 12.15 pm.