CERN TRACK CHAMBER COMMITTEE
Meeting on Monday, June 28, 1976

1. Minutes of the Last Meeting

The minutes of the last meeting, held on April 22nd 1976 (CERN/TCC 76-11) were approved.

2. Address by the Research Director General

Prof. L. VAN HOVE began by noting that though the meeting was the last of the TCC in its present form he felt that members should regard the change in procedure as an evolution rather than as the end of an era. He stressed that the TCC had made a most valuable contribution to the cause of high energy physics in Europe and he anticipated that the program of bubble chamber experiments would continue vigorously in the future.

He then stated that, as a result of comments received, a revised version of the "Proposed Procedures of Physicists Making Experiments at CERN" would be distributed (see addendum to the minutes). He invited further comments, in writing, so that a final version could be prepared in the Autumn.

He then summarized for the TCC the decisions on the future budgets and programs of CERN reached at the June meeting of Council. It had been agreed to return to the Bannier procedure and budget estimates had been fixed for 1977 and 1978 with a provisional discussion of the budget for 1979. He noted that a very positive attitude had been apparent at Council stimulated to some degree by the very successful first acceleration of protons in the SPS to 400 GeV on June 17.

Finally, he reported that CERN intended to set up a committee to represent Users from member states. He expected that such a committee would be constituted on a national basis with perhaps two members from each of the smaller countries and probably a larger number from the big nations. The committee would discuss with CERN any difficulties arising in connection with visiting or working at CERN. He announced that he would call an open meeting of Users in the Autumn.
3. **Report on CERN Research Board Meeting**

D.C. COLLEY reported on the CERN Research Board Meeting of May 20th, 1976. The Research Board took note of the TCC recommendation on experimental proposal T 246, $\bar{p}d$ at 12 GeV/c (see the Minutes of the TCC Meeting on April 22nd, 1976, CERN/TCC 76-11).

4. **Report on Bubble Chamber Operations**

D.C. COLLEY reported on the operation of the HBC200 during weeks 18 to 27:

<table>
<thead>
<tr>
<th>Experiment</th>
<th>Particle</th>
<th>Energy (GeV/c)</th>
<th>Kpx</th>
<th>Week Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>T 209</td>
<td>K$^-$</td>
<td>8.25</td>
<td>327</td>
<td>18-20</td>
</tr>
<tr>
<td>T 237</td>
<td>$\bar{p}$</td>
<td>7.3</td>
<td>767</td>
<td>22-25</td>
</tr>
<tr>
<td>T 209</td>
<td>K$^-$</td>
<td>8.25</td>
<td>&gt;120</td>
<td>running</td>
</tr>
</tbody>
</table>

Experiment T 237, $\bar{p}p$ at 7.3 GeV/c, has now been completed.

By August 1976, the remaining 500 kpx for experiment T 227, $\pi^-p$ at 4 GeV/c should have been taken and the modified PS periods (25/8 - 25/9; 6/10 - 13/11, 17/11 - 18/12) will then all be devoted to experiment T 209, $K^-p$ at 8.25 GeV/c.

The Chairman reported also about a test run of BEBC with a 2.6 cm$^3$ neutrino TST installed in the chamber. Both chamber and TST were filled with hydrogen this time and all mechanical tests were performed successfully. 40 thousand expansions -partly in double pulsing mode- were made.

5. **Report on the European Hybrid Spectrometer Project**

D.C. COLLEY informed the Committee that Part A of the EHS project ($\exists$FSC proposal P 42/Add.2Rev) has been approved by the Research Board on its last meeting.

6. **Discussion on Proposal T 247 (CERN/TCC 75-28/Add.1)**

G. KALMUS, the TCB referee for the experimental proposal T 247 to study dd interactions at 14 GeV/c, reminded the committee that only experimental proposals of great and immediate physics interest can be considered for the HBC200 at the time being. In a detailed letter to the authors of experiment T 247 he had argued that the authors did not show that their proposal falls into this category. A. FRIDMAN, the spokesman of proposal T 247 replied that, although Strasbourg is still convinced that the proposal is of interest, they will resubmit a new detailed paper to the PS Committee, specifically answering points made by the referee and other members of the TCC.

7. **Discussion on Proposal T 239 (CERN/TCC 76-6)**

B. JONGEJANS, TCB referee for the extension of proposal T 239, outlined to the TCC why he thinks that this proposal for a High Statistics, High Resolution Measurement of the Total and Partial $pp$ Cross-Sections between 1900 and 1965 MeV Total CM-Energy is of great interest and should be carried out. He remarked that the Collaboration should actually ask for more
pictures since the competition with other experiments will require improved statistics.

M. CRESTI replied that all competing experiments can only give answers to part of the questions answered by the experiment T 239. He also mentioned that more pictures may be required in case something very interesting will be detected during the analysis.

A study of a double focusing, 2 stage separated beam has been made. This beam design should be suitable for the low energy K⁻ experiments T 236 and T 211.

H. MUIRHEAD pointed out that little data only is available for elastic cross-sections of \( \bar{p}p \) in 0.6–1.0 GeV range and more pictures at these energies should be taken as long as a beam and the 2m chamber are available.

R. HEMINGWAY reminded the TCC that a large amount of pictures have to be taken for approved experiments and in his opinion the extension of T 239 was not of sufficient importance to risk completion of T 209, 8.25 GeV/c K⁻.

E. QUERCIGH and J. KINSON confirmed that the collaborating laboratories of T 209, K⁻p at 8.25 GeV/c, will indeed need to get all the 5 Mpx or even more. 80% of the film taken so far has been scanned and 50% measured and the full statistics will be required for the physics analysis specified in the proposal for this experiment.

D.C. COLLEY summarised the discussion, saying that he will transmit again to the PSC the opinion of the TCC that the approved programme should be completed. He also would transmit the view of the TCC that the extension of experiment T 239 was important and that the experiment should be approved. The schedule of the 2m- chamber should be such that a minimum of time is lost for picture taking. Some periods before the long machine shut-down, starting on April 7, 1977, should therefore be devoted to experiment T 239 (CERN/TCC 76-6), and to the low momentum K⁻ experiments (T 211 and T 236), if possible.

8. Discussion on a future Bubble Chamber Users Committee

D.C. COLLEY reminded the TCC of the discussion on a Bubble Chamber Users Committee held at the TCC meeting of April 22, 1976. It had been suggested that open meetings of Bubble Chamber Users should be called as required by a small group consisting of R. ARMENTEROS (HBC200 and CERN), A. ROUSSET (Gargamelle) and the chairmen of any other specialist user groups (e.g. BEBC or EHS) set up in future. The TCC agreed that it would be sensible to proceed in this way.

9. Any Other Business

D.C. COLLEY informed the TCC that a manual film measuring machine "IEP-SENIOR" is offered for sale and two old scanning-tables are available from CERN.

Anyone interested in this equipment or having similar apparatus to offer should contact R. BUDEL, EF Division, CERN.
He also announced that the TCC Secretariat will be closed and that Agenda and Minutes of the new PS Committee meetings will not be automatically distributed to TCC members. People wishing to get the PS documents should contact Mrs. M. FIDECARO, CERN, EP Division. A letter will be sent out reminding TCC members of this matter.

Finally he notified the TCC that following some discussions a list had been prepared of experiments for which films should be kept on archive by CERN. It was stated that this list would be distributed and comments on it should be sent to R. ARMENTEROS.

10. Final Session of the TCC

The Chairman of the TCC asked Dr. A. ROUSSET AND Dr. R. ARMENTEROS to conclude the last meeting of the CERN TRACK CHAMBER COMMITTEE with reviews on Bubble Chamber Physics performed at CERN during the 16 years of TCC.

After these review talks D.C. COLLEY thanked the TCC Secretaries (R. Budde and H. Wenninger) and the secretariat for their support. He then underlined the important role that Prof. Ch. PEYROU had played in the life of the TCC.

He reported that two past Chairmen M. TEUCHER and C.C. BUTLER had regretably been unable to attend the final session of the TCC but that both had sent their good wishes to members. He then asked Prof. B.P. GREGORY, who was the first Chairman of the TCC, to close the final meeting of the TCC. B.P. GREGORY stressed the important influence that the TCC had exercised in formulating a coherent program of bubble chamber experiments on the PS, especially the manner in which it had ensured the involvement of non-CERN physicists in reaching decisions. He concluded by stating his belief that the bubble chamber technique would certainly continue to play an important rôle in European High Energy Physics.

H. Wenninger
PROPOSED PROCEDURES FOR PHYSICISTS MAKING EXPERIMENTS
AT CERN
(second revision)

1. No formal distinction is made between the experimental teams containing CERN staff physicists and those which do not. Whenever possible, experimental teams working at CERN should be composed at least partly of physicists from institutions of CERN Member States.

2. As a general policy, CERN provides the basic facilities for performing experiments on its accelerators, whereas detectors and other equipment specific to each experiment are expected to be taken care of by the teams involved in the experiment, including teams from outside institutions. When a collaboration is formed for carrying out an experiment at CERN, all participating institutions should provide physicists to work on the experiment and should contribute a fair share of technical and financial support. The composition of the collaboration and the proposed sharing of support between CERN and the outside institutions should be cleared with CERN before approval of the experiment.

3. For the purpose of points 4 and 5 below, the term "outside physicist" refers to those physicists who take part in an experiment at CERN as participants from an
outside institution. The other physicists working at CERN, in particular those who are staff members, fellows and fully paid associates, are referred to as "CERN physicists".

4. (a) Outside physicists are expected to have a reasonable level of technical and financial support from their home institution for the experiments in which they participate at CERN. They should make full use of that support, in particular by spending the necessary fraction of their time at the home institution, for preparation of equipment as well as for data handling and computing. It is CERN policy to encourage outside physicists to share their time and activity between CERN and their home institution.

(b) CERN physicists are entitled to a reasonable level of support from CERN for the work they carry out in the Laboratory.

5. On request and within the limits of its resources, CERN may provide a share of technical and financial support to approved experiments, including experiments in which no CERN physicist is involved. This sharing of support takes into account not only the needs of single experiments,
but also the physics priorities of the overall CERN programme. To assist him for matters of technical support, the EP Division Leader appoints a staff member as Co-ordinator for technical support.

6. For each experimental proposal or approved experiment, the corresponding collaboration appoints one spokesman entitled to speak on its behalf. Throughout the preparation and running of an approved experiment, the collaboration should have a contactman in residence at CERN, selected in agreement with CERN. The contactman may, but need not, be the same person as the spokesman.