

Dr. L.C. D. Hollis

RUTHERFORD HIGH ENERGY LABORATORY

Track Chamber Panel

Minutes of Meeting No. 2 held on 6th November, 1967

Present: D.H.Perkins (Chairman)
I.Butterworth
H.Muirhead
I.Hughes
C.Henderson
G.H.Stafford
R.C.Hanna
C.M.Fisher (Secretary)

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1. Administration

The duties of the Track Chamber Panel were clarified by Dr. Stafford.

(a) The prime responsibility is to advise the Experiments Selection Panel on all bubble chamber proposals. The Selection Panel is the only body which is empowered to accept or reject an experimental programme and it will normally discuss the experiments with the proposer.

(b) The Panel will also be responsible for looking after the broad interests of the bubble chamber physicists. It will normally do this through the existing laboratory structure viz: the Nimrod Users Meetings and the Nimrod Users Advisory Committee but should it wish to convene a special meeting of bubble chamber users it can do so.

(c) The Panel can also set up working groups on special topics if necessary.

(d) The Panel will consider broad matters of policy for example, the future of existing chambers; new chambers, new beams etc.

Minutes of the Track Chamber Panel will be circulated to:

- (a) The senior members of each British Bubble Chamber Group.
- (b) Members of the Nimrod Experiments Selection Panel.
- (c) Members of the Coordinating Team.
- (d) The Head of Applied Physics Division.
- (e) The Head of the Bubble Chamber Operations Group.

Recommendations on proposed experiments will be sent only to the Selection Panel.

2. The 1.5 Metre Hydrogen Bubble Chamber Programme.

(a) Proposals 59 and 62.

These proposals, through force of circumstances, were approved

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by the Selection Panel before they had been considered by the Track Chamber Panel.

(b) Letter of Intent 33 - The Hydrogen Target Facility.

Dr. Fisher reported on the status of the project. Tests at DESY using deuterium in the target and neon/hydrogen in the 85cm chamber had been expected to yield useful data in October. These tests failed and therefore no experimental confirmation is yet available for the deuterium operation. There is no reason to doubt, however, that the system will work. The CERN group have been asked if it is possible to make a target which extends the full length of the chamber and they are preparing to make tests on target structures of various shapes.

The Panel judged this to be a promising technique which should be pursued although there remained some doubts whether the gamma ray detection efficiency of the neon/hydrogen mixture would prove sufficient for the study of events involving more than two neutral pions.

It was recommended that the 1.5 metre chamber should be tested for operation with neon/hydrogen mixtures compatible with hydrogen in the target provided that such tests do not interfere with the physics programme of the chamber. Other tests using deuterium in the target and neon in the chamber should also be made if the physics programme was not upset.

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The Panel would be interested to receive a fully worked out proposal from Dr. Fisher.

3. The Heavy Liquid Chamber Programme.

Dr. Henderson pointed out that it would be necessary to make provision for the tuning of Kll as soon as installation is complete. The heavy liquid programme depends critically on the separation in Kll which again depends on the X2 spot size. These facts must be available as soon as possible.

4. The High Field Bubble Chamber Project.

The results of the symposium held on 1st June 1967 have been published (HEP/MISC/3) and have been considered by the Nuclear Physics Board. The working party week held in September was attended by more than 30 bubble chamber physicists (17 from University Groups). The results of this study week are contained in a report under preparation and are of great value to the physicists working on the project. This report will also go to the Nuclear Physics Board.

The project was discussed at the last meeting of the NUAC held on October 15th and was strongly supported by all physicists present.

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Dr. Stafford said that it was very unlikely that approval for the HFBC would be obtained before a decision had been reached on the 300 GeV accelerator. A paper was under preparation in which the value of the chamber at the 300 GeV machine would be considered. This paper would be sent to the senior European bubble chamber physicists for comments.

Prof. Perkins remarked that ECFA were relying in the early stages of the 300 GeV operation on chambers from other laboratories coming to the site. The mobility of the high field chamber was therefore of great importance.

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5. Bubble Chamber Beams In Hall I.

The revised K9 beam discussed by Dr. Neale at the last Nimrod Users Meeting could not be properly assessed until the performance of the present K9 is known and understood which would take about six months.

Prof. Perkins said that no new proposals for beams for the helium bubble chamber could be made before the present experiment was assessed. Something might be known by the end of the year.

6. Other Business.

Dr. Stafford recommended that the Panel should discuss at a later meeting the long term programme for the three existing chambers accepting into this the commissioning of the high field chamber.

Dr. Hanna announced his forthcoming resignation from the leadership of the local group. Mr. Snowden would be invited to attend panel meetings to advise on the bubble chamber operations and to provide a link with the Coordinating Team until the new group leader was appointed. Until then Dr. Fisher will act as Secretary. (Secretary's Note: Mr. Snowden has agreed).

Dr. Henderson announced that for future meetings of the Panel his place will be taken by Dr. Stannard.

Future meetings will be held on the following dates contained in Nimrod Circular No. 70.

Thursday 18th January 1968.

"	4th April	"
"	13th June	"
"	5th September	"
"	14th November	"

Meetings will be held at 11.00 am unless otherwise notified.

C.M.Fisher.
17 November, 1967