

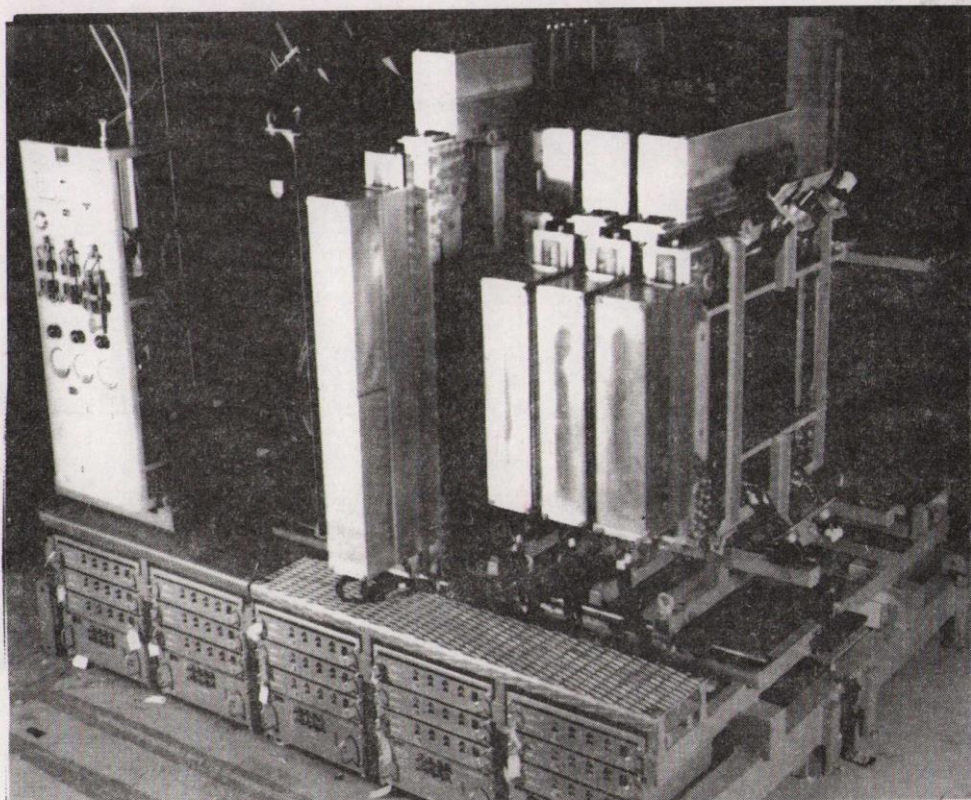


Rutherford
Laboratory

COMMON/ESCAL/IRM, NEPP, NCH, NGAP, ESCAN, NRR, NGR, NSCAN,
ITYSEL, IYSEL, IYMAX, NTRACY, NSC 10-24 June 1974
2NREGIN, NTK, NTRY, NMIS, NSSP, NEID, MAXIM, NPT, NPT, NPT, NPT,
COMMON/CHID/MEX(14, 3), MEY(30, 3), MEDX(12, 3), MEY(12, 3),
QTAB(2, 30, 3), DX(100, 4), NY(100, 4), XN(2), YN(2), TUN(2),
IDY(100, 2), JDX(4), JDY(4), IHS(4), IDV(2), TUN(2),
S, NCF(16), IFS, NFS, FX, FY, JK, PIC, KPIC, NCOUNT, NRAIN, XN(2),
T, MAXN, CTA, CTR, NX, MY, JA, JB, JC, JD, JE, YF(20, 3),
DIMENSION NGTR(144), NGTR(20), CTR(112)

bulletin 12

VANCOUVER BOUND



The "Triumf" cyclotron, which is being commissioned in Vancouver, Canada, should be starting its first experiments in September 1974.

The "Basque" experiment will be one of the first mounted on this new machine. Teams collaborating are AERE Harwell/Queen Mary College, London/University of Surrey/Bedford College, London/University of British Columbia, Canada. The experiment has been designed and built at the Rutherford Laboratory to provide further information about the neutron-proton triple scattering parameters between 200 and 500 MeV.

The photograph shows the proton detector (polarimeter) part of the experimental equipment which has been designed and manufactured by the Nuclear Physics Apparatus Group and the HEP Electronics Group. An important feature of this equipment is the twelve large multiwire proportional chambers, six of which have an active area of 1 m square. Taking each sense wire as a particle detector this is a total of 4,500 counting units, each of which has been tested.

The main array of proportional chambers, hodoscopes, gas supply and electronics, is mounted on a common framework. This enables the units to be aligned accurately relative to each other, then readily movable as a whole working assembly into different positions on the experimental area floor.

Among other equipment produced at the Rutherford Laboratory is a superconducting solenoid which will be the subject of a further article.

The fifth and last 20 ft long International Standards Organisation container of equipment left the Rutherford Laboratory on Friday 31 May 1974 for its 10,000 mile, 5 week journey by sea to Vancouver.

News continued on page 4

INTERNAL EVENTS

NIMROD LECTURE SERIES

Monday 10 June
11.30
Lecture Theatre

Polarization Measurements in Pseudo-Scalar Meson Photoproduction

Dr W H Range/Liverpool

HEP SEMINAR

Wednesday 12 June
11.00
Lecture Theatre

Resonance and Background Addition Re-Examined with applications to Pole Models of Low Energy Photoproduction and πN Elastic Scattering.

M G Olsson (Wisconsin)

NIMROD LECTURE SERIES

Monday 17 June
11.30
Lecture Theatre

Recent Measurements of Correlations Associated with Photons at Large P_T

Dr R Than/CERN

RUTHERFORD LABORATORY LECTURES

Thursday 20 June
15.15
Lecture Theatre

Chess, Robotics and North Sea Oil

Professor D Michie/Dept of Machine Intelligence, University of Edinburgh

MEETING ON DATA ACQUISITION FACILITIES AT CERN

Thursday 20 June
10.45
Conference Room, Building R12

Trends in Data Acquisition at CERN

10.45	Introduction	Roland Rosner (HEP Division) R.L.
11.00	Data Acquisition Facilities at CERN, Past, Present and Future.	Chris Jones, (NP Division, CERN)
12.00	Possibilities for a Real-Time Back-up Centre using CDC Equipment.	Tor Bloch (DD Division, CERN)
13.00	LUNCH	
14.15	Some remarks on a Solution using IBM Equipment.	David Lord (DD Division, CERN)
14.15	Summary	John MacEwan (C & A Division, R.L.)
15.00	Discussion	

NIMROD SCHEDULE

CYCLE 3 28.5.74 - 18.6.74

MACHINE PHYSICS

HIGH ENERGY PHYSICS

<u>Team</u>	<u>Beam</u>	<u>Experiment</u>	<u>State</u>
CERN/ORSAY/OXFORD	P81	Hadron-Proton Spin	Data
RUTHERFORD LABORATORY	$\pi 11$	Beam Measurements	Setting up
IMPERIAL COLLEGE/RL	$\pi 8A$	Experiments on Narrow Bosons X^0 (958) S^* and Cross-Section Measurements	Setting up
BRISTOL/SOTON/RL	K15A	K^-p Differential Cross-Sections	Setting up
COUNTER GROUP B/ CAMBRIDGE UNIVERSITY	$\pi 12$	$\pi^- p \rightarrow K^0 \Lambda^0$ in the Range 1.4 - 2.0 GeV/c	Setting up
RUTHERFORD LABORATORY	$\pi 9$	Polarisation in $\pi^- p \rightarrow \pi^0 n, \eta n$	Setting up
BIRMINGHAM/SURREY/ RL	K17	Stopping Kaons	Setting up
OXFORD - ISIS	P71	Chamber Tests	Setting up

STOP PRESS. The CERN COURIER Readership Survey may be returned via Harry Norms, R20.

EXTERNAL EVENTS

OXFORD UNIVERSITY

ELEMENTARY PARTICLE PHYSICS SEMINAR/NP LAB - 14.20 hrs
14 June: "Quark Model and SU_6 in Hadronic Decays".

THEORETICAL PHYSICS SEMINARS/CLARENDON LAB - 16.15 hrs
13 June: The Generator Coordinate Method in Nuclear Physics - Prof M V Mihalovic
20 June: The Study of Nuclear Structure by Electron Scattering - Dr E L Tomusiak

COLLOQUIA/CLARENDON LAB - 16.15 hrs
14 June: Physics I Have Known - Prof Sir R E Peierls

LOW TEMPERATURE AND SOLID STATE PHYSICS/CLARENDON LAB - 14.30 hrs
13 June: Spectroscopy in Magnetic and Elastic Bands - Dr M J Leask

SOUTHAMPTON UNIVERSITY

THEORETICAL AND HIGH ENERGY PHYSICS SEMINAR - 14.30 hrs
14 June: Renormalisation of Spontaneously Broken Gauge Theories - Dr D A Ross/Imperial College

READING UNIVERSITY

APPLIED PHYSICAL SCIENCES COLLOQUIA - 16.30 hrs
12 June: Non-linear Networks - Mr M Gerzon/Mathematical Institute, Oxford
19 June: From Bearskin to Loons: Technology and Changes in Sexual Roles - Henry Blyth

SUSSEX UNIVERSITY

LOW TEMPERATURE AND SOLID STATE SEMINAR - 14.15 hrs
11 June: Modelling of Defects in Crystalline Solids - Dr A B Lidiard/AERE
NUCLEAR AND ELEMENTARY PARTICLE PHYSICS SEMINAR - 14.15 hrs
17 June: Nucleon-Nucleon Interaction from Pion Nucleon Phase Shift Analysis - Prof R Vinh Mau/Paris

DARESBURY LABORATORY

DARESBURY LECTURE SERIES - 14.30 hrs
18 June: Reams of Molecules, Atoms and Neutrons - Prof N F Ramsey/Harvard and Oxford
THEORETICAL PHYSICS SEMINAR - 14.00 hrs
17 June: Quark Spin, Duality and the Bootstrap - Dr M York/Birmingham

EVENTS AT HARWELL

NUCLEAR PHYSICS DIVISION COLLOQUIUM/COCKCROFT HALL - 15.30 hrs
13 June: Scientists and Science Correspondents - Mr David Fishlock/Science Editor, The Financial Times
THEORETICAL PHYSICS SEMINARS/CONFERENCE ROOM, BLDG 8.9 - 14.00 hrs
11 June: Computer Simulation and Radiation Damage Models - M J Norgett/TP Div Harwell
18 June: The Self-Trapped Excitation and its Hopping Motion in Alkali Halides - K S Song/Ottawa

TELEPHONE DIRECTORY AMENDMENTS

DELETE				ADD				
	<u>RMS</u>	<u>EXT.</u>	<u>BUILD.</u>	<u>DIV.</u>	<u>RMS</u>	<u>EXT.</u>	<u>BUILD.</u>	<u>DIV.</u>
CASTLE F J		393				216		Eng. Div.
COLLINS MRS G	2-2	383	R1		1-7	463/517	R25	
EISENHANDLER E		6245				562		
EVANS		543	R3		304	303	R2	
GODFREY P M		383				391		
MEDWAY E		6243				6165		
POWELL B MRS	18	400	R20		54	6202	Atlas	
SUTHERLAND J C		319				491		
TEMPLEMAN K						216		Eng. Div.
<u>ADDITIONS</u>								
CHRISTODOULIDES DR C		245	R64	AP				

RUTHERFORD LABORATORY BULLETIN

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Editor: H F NORRIS

Deadline
for
Insertions

GENERAL & SOCIAL NEWS
Tuesday 1600

INTERNAL & EXTERNAL EVENTS
Wednesday 1200

Room 42 Building R20
Rutherford Laboratory
Chilton Didcot Berks
Abingdon 1900 Ext 484

RUTHERFORD LABORATORY LECTURE

There seems little connection between the annual Rutherford and Atlas Laboratories chess tournament and a Rutherford Laboratory Lecture. Maybe there isn't but it's safe to say that more than one of the participants will be listening with keen interest to Professor Donald Michie when he gives his lecture on, "Chess, Robotics and North Sea Oil". The lecture will be at 15.15 hrs on Thursday 20 June in the Lecture Theatre, and Professor Michie has kindly supplied the following foretaste of a talk which should be both fascinating and informative.

"Computer-controlled 'hand-eye' systems have been developed to the point where 'find and fetch' tasks are relatively easy for the user to specify and are executed reliably by the machine. The possibility of North Sea applications gains point from the recent development of unmanned submersibles by such organisations as BAC and Shell.

Advance beyond the present state of the robotic arts requires a better understanding of automatic plan-formation than is available at present. A game of chess provides a convenient model for studying planning, and illustrative cases will be presented.

A film will also be shown of Edinburgh's FREDDY, operating in "versatile assembly" mode."

FILM BADGE NOTICE

It is Period 6. Colour Strip - RED for $\beta\gamma$ films and neutron packs.

Please check that you are wearing the correct dosimeter and that all old ones are returned.

Next film issue - Monday 17 June.

MEETING ON DATA ACQUISITION FACILITIES

Discussions have been going on at CERN about future data acquisition and real-time back-up facilities. As users of CERN, Rutherford people will obviously be affected by any decision taken there. But, in addition, we should start thinking about data acquisition for future experiments on Rutherford Laboratory machines. A one-day meeting has been organised on Thursday, 20 June, to give details of the CERN proposals and to see how the various options considered might relate to our own problems. The agenda for this meeting is shown in 'Internal Events'.

OVERSEAS VISITS

Dr J D Lawson, to Sweden, 7-11 June, to visit the Royal Institute of Technology, Stockholm.

Dr R J N Phillips, to Hungary and Poland, 12-30 June, to attend the Balaton Symposium and the Zakopane Summer School on High Energy Physics. Dr R P Worden will also be visiting Poland 14-25 June to take part in the Zakopane event.

Mr G T Arnison, to CERN, 13-22 June, for data taking on Experiment S124.

Mr G H Rees, to Hamburg, 17-19 June, to attend the dedication of the DORIS storage ring and for discussions.

Dr G A Ringland, Trieste, 19-25 June, to attend the Trieste Conference on e^+e^- .

Dr A Astbury, to Czechoslovakia, 22-29 June, to attend Symposium on Antinucleon-Nucleon Interactions at Liblice and to give a summary talk on 'Formation of High Mass Mesons'.

SOCIAL NEWS

CHRISTIAN FELLOWSHIP

Friday 14 June: "How did you first become a Christian and what difference has the Lord Jesus Christ made in your life?" Denis Williams of Building R20 will be asking members of the Fellowship this and other questions during a testimony time. All welcome to the meeting in R12 Conference Room at 12.30 pm.

Friday 21 June: All are welcome to hear a tape-recording at 12.30 pm in the R12 Conference Room. It is hoped to have a recording of a message by Pastor Wurmbbrand of Rumania.

HORTICULTURAL SOCIETY

The next summer outing is to Compton Acres, Bournemouth, on the morning of 27 June followed by a visit to the nearby Poole Pottery in the afternoon of the same day. Seats on the coach are going rapidly so if you want to go, contact Mrs V E Goodwin, Ext. 6256/6298 as soon as possible.