



Rutherford
Laboratory

3-10 January 1972
bulletin
R(12), NDT(60,3), ISW(3500), ANGLE(60), YINT(60), DUMMY(84),
(6,3), NACHT(48), XCEN(12), YCF(12), IP(12), YCH(12), AR,
MMON/CFID/MFX(20,3), MEY(20,3), NFDX(10,3), NFX(3), NFD(3), I
B(2,20,3), NX(100,4), NY(100,4), XN(2), YN(8), IB(100,2), JDX(1
DY(100,2), JDX(4), JDY(4), IHS(4), IOV(2), IUN(2), IDEL(2), DE
CF(16), IFS, NFS, FX, FY, JK, PIC, KPIC, NCOUNT, NBIN, MAXOV, MA
AXN, CTA, CTB, MX, MY, JA, JB, JC, JD, JE, JF, XF(20,3), YF(20,3
MMON/CJACK/NSY(20,30), NMS(20), NDR(20), NSI(20), XA(160), YA
(20), BX(20), NST1(20), NST2(20), INER(20), NSX(20,30), AWI(60

NIMROD WINTER SHUTDOWN

A large programme of work is now well under way involving installation modification and maintenance. The following is of necessity an outline of some aspects of the scheduled programme. However we hope to include at a later date more detailed reports of some of the more important items of the winter shutdown programme.

1 Conversion of the present thick septum extraction system associated with XI/X2 beams to the thin septum type which has been in use on the X3 beam since June 1970. This should lead to improved extraction efficiency, and also because of the fact that only one plunging mechanism is required (as against two for the existing thick septum system), it should be intrinsically more reliable in operation. It involves replacement of the extract magnet in straight 2, commissioning of a new regulator and control system for the power supply associated with the new thin septum magnet, and also the installation of two header vessel powered shim magnets one each for XI and X2 beams, and their associated power supplies.

2 Provision is being made for spare heavy current supply capacity, in particular the installation of a 900 KW static power supply which could be used with both thin septum extraction systems.

3 The installation and commissioning of a digital position control system on the straight section 4 plunging mechanism is proceeding.

4 The straight section 7 box has been removed so as to permit detailed examination of radiation damage in this area. This removal is facilitating the replacement of some of the pole face winding cooling water pipes, adjacent to straight section 7, which have been damaged. The vacuum vessel polythene closure plate on Octant 7, particularly the section close to straight section 7, has also been damaged by radiation. This closure plate is being replaced by a spare one.

5 The existing flywheels on the magnet power supply plant are being replaced with new ones. These new flywheels have one half-shaft forged integrally with the disc, thus eliminating the bolted and keyed construction between alternators and flywheels. The repaired drive motor will be installed, thereby releasing the bi-directional (spare) drive motor now in service.

6 Work on the computer control system is concerned with the implementation of inter-active graphics and diagnostic programmes for pole facing winding currents. Interactive graphic presentations will be extended to other parameters in due course.

7 Some preparatory work is under way on the 2nd Harmonic RF System, including the installation of beam control/monitor induction electrodes in straight section 3.

Much of the work being carried out in the winter shutdown has been omitted from this brief survey, for example - on the injector; rotary 2, 250 KW motor generator set, and the installation of T V systems for straights 2 and 4 etc. We hope that this does however indicate the importance and nature of the large programme scheduled for these two months.

THE NIMROD YEAR

In 1970 Nimrod produced 4859 hours of good beam time for HEP experimentalists.

FILM BADGE NOTICE

Period I for 1972 commences 29 December. Colour Strip - ORANGE for 8y films. Six monthly TLD change for people with surnames commencing ABCD.

OVERSEAS VISITS

Dr H I Miettinen to Norway 9 - 15 January 1972 to attend the Scandinavian Conference on High Energy Physics at Spantid, Dokka.

INTERNAL EVENTS

INFORMAL THEORETICAL PHYSICS MEETING

Wednesday 5 January
14.00 - 15.30
16.00 - 17.40
Thursday 6 January
9.45 - 11.15
11.45 - 13.15
14.15 - 15.45
16.15 - 17.45
Friday 7 January
9.45 - 11.15
11.45 - 13.15
14.15 - 15.45
16.15 - 17.45

The programme is as follows:-

Non-Polynomial Lagrangians, Gravity Theory & Particle Physics - *A Salam/Imp Coll*
Light Cone Physics - *Y Frishman/Weizmann Institute*

Dual Resonance Models - *S Mandelstam/Imperial College*
Statistical Bootstrap Model of Hadrons - *S Frantschi/CERN*
Recent Results at Very High Energies (CERN ISR & Serpukhov) - *A N Diddens/CERN*
High Energy Amplitude Analysis - *R P Worden /CERN*

Electro magnetic Interactions outside the Scaling Region - *G Shaw/DNPL*
Deep Inelastic Scattering - *J C Polkinghorne/Cambridge*
Aspects of Multiparticle Production - *H Satz/Bielefeld Germany*
Regge Phenomenology of Inclusive Reactions - *H M Chan/RHEL*

FILM SHOW

Wednesday 5 January
12.40 p.m.
Thursday 6 January
13.20 p.m.
Lecture Theatre

Through the North West Passage - a 26 minute colour film.

Please note change of showing times due to the Informal Theoretical Physics Meeting - in particular please do not enter the Lecture Theatre before the morning session of this meeting is over which is timed to end at 13.15 p.m.

The film provides a fascinating record of the design, fabrication and voyage of the S S Manhattan, the worlds largest ice-breaker. For 400 years mariners have searched for a sea route across the top of North America and this film records the first occasion when the North West Passage has been breached by a commercial vessel of this size. The S S Manhattan was chosen because it was a grossly over powered oil tanker. It was cut into four pieces and sent to four different shipyards to speed up the conversion, the bow section in particular being extensively redesigned. Here then, is an exciting and fascinating pictorial account of this remarkable voyage which should be of interest to everyone.

HEP DISCUSSION GROUP

Wednesday 12 January
11.00
Conference Room RI

Plastic Threshold Cerenkov Detectors with wavelength shifter and quencher.

Dr E J Sacharidis/RHEL

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MISSING ITEM

Plastic ring binder (blue, stores issue) containing technical notes and data. No name on cover. Anyone finding this binder is asked to contact the owner, J S Long, Building R25, Ext 6280.

EXTERNAL EVENTS

COLLOQUIA AND DISCUSSION

GROUP

Monday 10 January 1972

17.00

University of Reading

The Behaviour of Metal-Ion-Impurity Cation-Vacancy Complexes in Alkali Halides

Professor J H Crawford/University of North Carolina

ELEMENTARY PARTICLE PHYSICS

SEMINAR

Thursday 13 January

15.00

University of Cambridge

Properties of Currents in Dual Models

Dr A Neveu/Orsay

EVENT AT AERE

THEORETICAL PHYSICS SEMINAR

Tuesday 11 January

14.00

Conference Room Building 8.9

Fleet Scheduling

Dr I M Cheshire/AERE

RUTHERFORD LABORATORY BULLETIN

Published by the Scientific Administration Group

Editor: H F NORRIS

Deadline
for
Insertions

GENERAL & SOCIAL NEWS

Tuesday 1600

INTERNAL & EXTERNAL EVENTS

Wednesday 1200

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pmr

SOCIAL NEWS

CHESS MATCH AT DIDCOT

The chess match between the Rutherford Laboratory and Didcot played on Thursday 16 December at Didcot resulted in an excellent win for the Laboratory. At the moment Didcot are one of the strongest teams in North Berkshire, however the following results table shows the measure of the victory.

<u>Didcot</u>		<u>Rutherford</u>	
J C Waldron	- 0	P J Hemmings	- 1
H Sloan	- 0	A Gilby	- 1
M Duck	- 0	K Le-Page	- 1
P Mosely	- 1	P Craske	- 0
D Danby	- 1	S K Chanda	- 0
R Hansford	- 0	W Glasgow	- 1
B Gibbs	- 0	D R Culliford	- 1
P Malcombe	- 1	C Uden	- 0
M Talbot	- 0	J Godfrey	- 1
N Brooks	- 0	R Downs	- 1
J Brazier	- 0	M Evans	- 1
J Atkinson	- 0	B Mack	- 1
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	3		9
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There were many fine performances and just to mention two, Peter Hemmings had a good win on Board 1 against a strong opponent and Brian Mack playing his first ever match won on Board 12.

It is also noted that two of the Rutherford Laboratory's losing players also play for Didcot!! However there is no truth in the rumour that they were nobbled to make the score look more respectable.

(Really!! - one starts to conjure up pictures of large amounts of new pence changing hands in some dark alley - Ed.)

RECORD SOCIETY

Tuesday 4 January 1972 at 12.40 p.m. in the Lecture Theatre

Music in the James Last style.

CHRISTIAN FELLOWSHIP

Friday 7 January 1972 at 12.30 p.m. in the Conference Room Building R12.

All welcome to attend the meeting.