



Rutherford
Laboratory

R(12), NDT(60,3), ISW(3500), ANGLE(60), YINT(60), DUMMY(R4),
(6,3), NACHT(48), XCEN(12), YCFN(12), PAC(2), (6), 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(100,3), IDX(1
DY(100,2), JDY(4), JDX(4), IHS(4), IOV(2), IUN(2), ID(100,3), IDE
CF(16), IFS, NFS, FX, FY, JK, PIC, KPIC, NCOUNT, NBIN, A, MAXUN
AXN, CTA, CTB, MX, MY, JA, JB, JC, JD, JE, JF, XF(20,3), F(3)
PMDN/CJACK/NSY(20,30), NMS(20), NDR(20), X(100,3), YA
(20), BX(20), NST1(20), NST2(20), INER(20), NSX(20,30), AWT(60)

1-8 May 1972

16

bulletin

NEW TESTS ON THE AC3 PULSED MAGNET

In the tests reported in Autumn 1971 the AC3 pulsed dipole prototype successfully reached about 39kG in a 10 cm bore. An additional 7.5 cm bore inner winding has recently been added, and on its first cooldown the new assembly repeatedly reached 46 kG central field (52 kG peak field) at slow rise, and 45 kG central field with a 3 second rise time. Very little training was necessary and the current achieved (4500A) was close to the short sample current for the cable used.

It is also of interest that prior to this test a substantial repair was made in an inter-pancake connection, involving splicing in a short length of superconducting cable and reimpregnating. No deterioration of performance resulted from this repair, thus supporting the view that superconducting magnets are now reaching the stage in which straightforward engineering techniques can be used in construction, operation and maintenance.

FILM BADGE NOTICE

It is period 5 - colour strip BLUE for $\beta\gamma$ films and fast neutron packs. Please check that you are wearing the correct films and that all old ones are returned.

MISSING EQUIPMENT

The following item of equipment has been reported missing:-
Marconi Universal Bridge Type TF 868B Serial No 178/108, Loan Pool No LP 1052.
Anyone with information concerning the present location of this instrument please contact Mr V A Thorpe, Ext 382.

CHRISTIAN FELLOWSHIP

Friday 5 May. John Mathews will be leading our monthly prayer meeting in R12 Conference Room at 12.30. All are invited to come along.

FILM SHOWS

There will be no film shows this week.

VISITORS

Twenty Undergraduates from Oxford University will visit the Laboratory Saturday 6 May.

OVERSEAS VISITS

Mr D A Gray and Dr D B Thomas to CERN 1 - 3 May to attend meeting of the Group for European Superconducting Synchrotron Studies.
Dr G Manning to CERN 2 - 3 May to attend NPROC meeting.

OPEN MEETING

Wednesday 3 May
19.30
Reading College of
Technology

The Council of Engineering Institutions - Thames Valley Local Committee.
"Engineers - How will the Engineer's Registration Board effect you?" The main speaker will be Miss R Winslade O B E MIMC FITE AMBIM Assistant Secretary of the CEI, supported by representatives of some of the major Engineering Institutions.

These meetings are primarily designed to provide information for those who hope to be registered as:

Technician Engineer CEI - T Eng (CEI)
or
Technician CEI - Tech (CEI)

and to their employers, but could also be of interest to those aspiring to Chartered Engineer status - C Eng.

Present and past students on HND HNC or C & G Technician Courses are particularly invited.

INTERNAL EVENTS

NIMROD LECTURE SERIES

Monday 1 May
11.30
Lecture Theatre

"Various Interpretations of Elastic Scattering including I S R data"

R J M Phillips and G L Kane/RHEL

PROPOSAL FOR HEP EXPERIMENT

Monday 1 May
14.30
Lecture Theatre

"Spin Effects in Deep Inelastic Lepton-Proton Scattering"

Dr D E Booth/University of Oxford

H E P DISCUSSION GROUP

Wednesday 3 May
11.00
Lecture Theatre

"Towards an Amplitude Analysis of $\pi^-p \rightarrow \pi^+ \pi^- n$ at 15 GeV/c"

D Morgan/RHEL

C & A DIVISION

Friday 5 May
11.00
R12 Conference Room

C & A Division - General Meeting.

This meeting is intended mainly for members of the C & A Division. Progress reports will be given on various aspects of the Division's work.

NIMROD SCHEDULE

CYCLE 5 25 4 72 - 16 5 72

MACHINE PHYSICS

HIGH ENERGY PHYSICS

<u>Team</u>	<u>Beam</u>	<u>Experiment</u>	<u>State</u>
Birmingham University RHEL	K12A	$K^+ \eta$ Elastic Scattering and $K^+ n$ Charge Exchange from 0.45-0.95 GeV/c	Data
Cambridge University RHEL	K13C	Associated Production Cross Sections	Setting up
Imperial College Southampton University	π^7	Studies of η ω and A_2	Data
Surrey University Birmingham University RHEL	π^{10}	Total Cross-Sections for Pions on Light Nuclei	Setting up
RHEL	K9	HBC-Technical Tests for Future Experiments	Setting up
Glasgow University RHEL	π^9, N_4	Polarisation Measurements in $\pi^- p$ Charge Exchange	Setting up
Bristol University Southampton University RHEL	K15	$K^+ p$ and $\pi^+ p$ Differential Cross-Sections	Setting up
Westfield College RHEL	π^8	Neutron Counter Tests for Ω Project	Setting up
Oxford University	P71	Cherenkov Counter Tests for NAL Experiment	Setting up

EXTERNAL EVENTS

● PHYSICS & GEOPHYSICS COLLOQUIUM
Monday 1 May
17.00
University of Bristol

Growth rate and morphology of polyethylene-oxide single crystals from Melt
Dr A J Kovacs/Strasburg

THEORETICAL PHYSICS SEMINAR
Monday 1 May
16.15
Queen Mary College London

The Many-body problem in Strong Interactions
Dr Chan Hong-Mo/RHEL

ELEMENTARY PARTICLE PHYSICS SEMINAR
Tuesday 3 May
14.30
Nuclear Physics Lecture Theatre Oxford

Massive Photons from Hadron Collisions
Prof L Lederman/University Columbia & CERN

THEORETICAL PHYSICS DIVISION SEMINAR
Tuesday 2 May
14.00
Conference Room 8.9 AERE

The Present State of Fusion Research
Dr K Roberts/Culham Laboratory

THEORETICAL PHYSICS SEMINAR
Wednesday 3 May
14.30
University of Manchester

The Thermal Evolution of Planets and its relation to their dynamics
Dr D C Tozer/Newcastle

THEORETICAL PHYSICS SEMINAR
Thursday 4 May
16.15
Clarendon Laboratory Oxford

Saturation in R F Spectroscopy
Dr S Stenholm/Helsinki

COLLOQUIUM
Friday 5 May
16.15
Clarendon Laboratory Oxford

1973 - Toward the next era in Nuclear Physics - Meson Factories
Professor E W Vogt/Vancouver

EXHIBITION

The 1972 IEA Exhibition will be held at Olympia London 8 - 12 May

THEORETICAL PHYSICS SEMINAR
Monday 8 May
16.15
Queen Mary College London

Phase Transitions in 1, 2 and 3 Dimensions
Sir Rudolph Peierls/Oxford

RUTHERFORD LABORATORY BULLETIN

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Acting Editor: F HARDEN

Deadline
for
Insertions

GENERAL & SOCIAL NEWS
Tuesday 1600

INTERNAL & EXTERNAL EVENTS
Wednesday 1200

Room 40 Building R20
Rutherford Laboratory
Chilton Didcot Berks
Abingdon 1900 Ext 6114

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SOCIAL NEWS

SEVEN-A-SIDE SOCCER

21 April. Transport v R9. This game started with both teams looking on equal terms. R9 lead with a fine goal by John Crawford chipping the ball over the keeper's head. Transport's Bob Gillespie made it one all by half-time. The second half saw a bemused R9 conceding five goals, two fine goals came from Bob Strong and one from Denis Stock. The remaining two goals were own goals by R9.
Final Score Transport 6 - R9 1

24 April. Stores v Atlas. Atlas only fielding six players were soon under pressure Martin Goddard scored first for Stores followed by a second from Dave Davis. Atlas replied with a goal scored by Ken Buss to bring the half-time score Stores 2 Atlas 1. Second half showed a full strength Atlas with hard tackling by both teams. Atlas conceded two goals, scorers Dave Davis and J Slade.
Final Score Stores 4 Atlas 1

25 April. R25 v AERE. This was a friendly game but one which no quarter was asked or given by either side. AERE went ahead after only 4 minutes. After the restart John Mackerness collected the ball over on the right and taking on two defenders scored from the edge of the 18 yard box, a good goal by any standards. In the second half AERE applied constant pressure on the R25 defence which finally conceded three more goals and a penalty which was saved by Ken Fisher in the R25 goal.
Final Score R25 1 - AERE 4

RUTHERFORD FOOTBALL

LEAGUE TABLE

24 APRIL 1972

TEAMS	P	W	D	L	F	A	Pts
Transport	3	3	0	0	17	4	6
R 18	2	2	0	0	8	2	4
Stores	3	1	1	1	8	6	3
R 9	3	1	1	1	7	11	3
D O	2	0	2	0	4	4	2
R 25	2	0	1	1	4	5	1
Atlas	3	0	1	2	5	13	1
Hall 3	2	0	0	2	2	10	0

NOTICE

Transport are short of players and would appreciate any uncommitted players who would like a game. Contact Mr R Smith (Transport Section).

FOLK CLUB

The Rutherford and Atlas Recreational Society Folk Club meets every Friday in R22 Coffee Lounge at 20.00 hours. Licensed Bar.

Appearing in the near future:-

28 April	Rosie Hardiman (Contemporary)
5 May	Rod Garfield and Tony Brummel Smith (Blues)
12 May	George Deacon and Marion Ross (Traditional)
26 May	Roger Sutcliffe (Blues)
2 June	Dick Ganghan (Scottish Traditional)
9 June	Duncdain (English Traditional)
16 June	To be arranged - suggestions welcome from members
23 June	Pete and Ali Nalder
30 June	Tony Capstick (Traditional and Contemporary)
7 July	Joe Stead (very funny - banjo etc)

For further details please contact Stephanie Hannan R22 Ext 6229.

ENTENTE CORDIALE

On Friday 21 April at 5.15 am a group of 15 adventurers, mainly employed at the Rutherford Laboratory, left 'B' Mess for a 5 day trip to Paris. Grateful thanks to Peter Day - R1 of 'Day Tours' for arranging the trip, he did a jolly good job. Apologies to any Parisian that was unduly inconvenienced by our frivolities and also to the lovely gay Frenchman at the reception desk that was amused by our parties in his hotel rooms. We promise France won't be disturbed by us again for the next few months anyway.