



COMMON/ESCALATE, NERD, NGAP, NGAP, ISCAN, INDR, NER, NSCAN, NRE
11YSEL, IYSEL, IYSEL, IYSEL, IYSEL, IYSEL, IYSEL, IYSEL, IYSEL, IYSEL
2NREGIN, NTK, NTRY, NMISS, NSSP, NERD, MAXMIN, NERST, NEND, JTR
COMMON/CRJD/MEX(24,3), MEY(30,3), MEDX(12,3), NEX(3), NEX(3)
QTAR(2,30,3), NY(100,4), NY(100,4), XN(2), YN(8), TR(100,100)
R, TDY(100,2), JDX(4), JDY(4), IHS(4), TOV(2), TUN(2), TDF
S, NCF(16), IFS, NFS, FY, FY, JK, PIC, KPIC, NCOUNT, NRTN, MAX
T, MAXN, CTA, CTB, MX, MY, JA, JB, JC, JD, JF, YE
DIMENSION NCT9(144), NGTR(20), CTR(112), STR(12), MODE(2)

29 April - 13 May 1974

bulletin 9

NOTES ON NIMROD POWER SUPPLY SHUTDOWN WORK DEC 73/APR 74

The Editor is grateful to Ron Baker of the Nimrod PSAP Group for the following notes:-

No major dismantling of the main power supply rotating plant has been necessary during this shutdown, although detailed ultrasonic inspection of machine journals has been carried out. Amidst the host of other routine maintenance tasks, the following non-routine items may be of interest.

During the year, the vigilance of the shift staff was again rewarded, by finding some high voltage cables in an incipient breakdown state. The outer sheaths of many of the HV cables that carry the premagnetisation pulses to the interphase transformers were decomposed due to corona discharge wherever they passed over earthed metalwork. Fortunately, this was noticed before a breakdown occurred and during the shutdown these cables have been re-installed in plastic trunking to avoid close proximity to earthed metalwork.

In Bulletin No 8 of 1973 mention was made of possible commissioning of the new master timer for Nimrod, if time permitted. This timer was in fact commissioned and it operated successfully for the remainder of that year. It was, however, installed on a trial basis and during this shutdown it has been rehoused permanently in the ACR together with its new control interface.

Advantage was taken of the long shutdown to install thyristor units in place of the existing mercury arc pumpless steel tank rectifiers on the alternator excitation circuit of No 1 machine. This investigational work became necessary because we were suddenly informed by GEC during 1973 that manufacture of these units had ended and that the reconditioning service would cease after December of that year. The cost of producing suitable thyristor units, including the design of new interface equipment, was quoted at about £18,000 for one alternator. This was considered excessive, particularly since required circuit modifications were not included. The design and manufacture was therefore carried out by the PSAP Group. It is interesting to note that equipment costs amounted to about £2,000 and in addition 6 man-weeks of design and development plus 6 man-weeks for construction were also required.

The tests proved to be completely successful, but the mercury arc rectifiers have been re-installed because of their superior overload capacity and because no spare thyristors have been purchased. Nevertheless, we now have a satisfactory alternative solution, when the mercury arc rectifiers finally require replacement.

MISSING EQUIPMENT

An 'Arrow' projection screen has been reported missing from Building R35. Will anyone with information on its present whereabouts please contact either Mr C F Jones, Ext 237 or Mr P J Horton, Ext 541.

FILM BADGE NOTICE

Period 5 commenced Monday 22 April. Colour Strip - BLUE for $\beta\gamma$ films and BLUE/GREEN for neutron packs.

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

Six monthly TLD change for people with surnames commencing ORST.

OVERSEAS VISITS

Mr P T M Clee, to the USA, 1-15 May, to attend the IXth International Conference on High Energy Accelerators at SLAC and to visit Berkeley and Los Alamos.

The Director and Dr D J Baugh, to CERN, 2-3 May to attend ECFA Working Group 3 Meeting.

NIMROD SCHEDULE

Cycle 1 18.4.74 - 9.5.74

Commissioning of Nimrod and Beam Lines

INTERNAL EVENTS

NIMROD LECTURE SERIES

Monday 29 April, 11.30
Tuesday 30 April, 15.00
Wednesday 1 May, 15.00
Friday 3 May, 11.00
Lecture Theatre

An Introduction to Gauge Theories for Experimentalists - a series of four lectures at the times and dates shown

Dr Illiopoulos/Orsay

PROPOSAL TALKS

Monday 29 April
14.30 & 15.15
Conference Room, Building R12

(times are approximate)

14.30 Proposal No 148: "A Proposal to Measure the π^+ and π^- Total Cross Sections on Deuterium and of the Total Cross Sections for the Production of Neutral Particles in the π^-D Interaction for π^- Energies from 50-350 MeV at SIN", Sin/Karlsruhe U./Neuchatel U./Oxford U./Heidelberg/UCL. Talk by Dr N Tanner/Oxford.

15.15 Proposal No 149: "A Proposal for a Ξ^* Experiment at the BNL Multiparticle Spectrometer". Imp. Coll/Southampton U. Talk by Dr G McEwan

TRADE DEMONSTRATION

Tuesday 30 April
09.30 - 16.00
Conference Room, Building R12

Channel Electric Equipment Ltd will have on exhibition a range of components including rail mounted terminal units, miniature connectors, pipe and cable clamps and cable identification. A new range of terminal junction modules may prove of interest to anyone concerned with high quality hermetically sealed, noise free connections.

PROPOSAL TALKS

Tuesday 30 April
11.30 & 14.00
Lecture Theatre

11.30 Proposal No 150: "A Study of Exchange Mechanisms in Quasi Two-Body Final States using the R.M.S. Facility", Westfield Coll/Edinburgh U./RL. Talk by Professor P V March/Westfield.

14.00 Proposal No 140: "Experiments with High Energy Charged Hyperons at the SPS", Geneva U./Heidelberg/Lausanne U./Orsay/Strasbourg/RL. Talk by Dr J J Thresher/RL.

HEP SEMINAR

Wednesday 1 May
11.00
Lecture Theatre

Permanently Bound Quarks - New Solutions to Old Field Equations

G Guralnik/Brown University and Imperial College

SCIENTIFIC INSTRUMENTS MOBILE EXHIBITION

European Marketing, an organisation set up to enable British and European Manufacturers of Scientific Apparatus to expose their equipment to potential users in the major British R & D Establishments are visiting the Laboratory for the first time with their Mobile Exhibition Unit. On display and demonstration:- Cameras for oscillography, micrography and laboratory close-up work: peristaltic pumps: high vacuum components: digital read-out printer, laboratory monitoring devices for flow, temperature and level: vacuum coating plant: electro-chemical marking equipment plus many other items of equipment from some twelve firms. Further information from the Editor.

TWO-DAY MEETING ON DEEP INELASTIC PHENOMENA - LECTURE THEATRE R22

SATURDAY 4 MAY

10.00	Comments on Parton Models for e^+e^- Processes	T Walsh
10.50	Coffee	
11.15	Results from SPEAR	R Schwitters
12.05	Theoretical Interpretations of e^+e^- Annihilation Results	J Ellis
13.00	Lunch	
14.30	New Leptonproduction Data	D Perkins
15.20	Final State in Leptonproduction	J Cleymans
16.10	Tea	
16.30	Short Contributions	
17.30	End	

SUNDAY 5 MAY

10.00	Parton Models	G Preparata
10.50	Coffee	
11.15	Short Contributions	
12.05	Experimental Data at Large P_T	S Ellis
13.00	Lunch	
14.30	Models for Large P_T Phenomena	S Brodsky
15.30	Tea	
16.00	Perspectives	J Polkinghorne
17.00	End	

People who have not had invitations are free to attend, but please inform Mr F Harden (R20). It is regretted that expenses cannot be met for those not specifically invited.

NIMROD LECTURE SERIES

Monday 6 May
11.30
Lecture Theatre

New e^+e^- Results from SPEAR

Dr R F Schwitters/SLAC

TRADE DEMONSTRATION

Tuesday 7 May
10.00 - 16.00
Conference Room, Building R12

S E Laboratories (Engineering) Ltd will be demonstrating a range of their products including ultra-violet recorders, pressure transducers, signal conditioning, digital multimeters timer counters, frequency response analysers and instrumentation type recorders. Several of these items are new to their range

HEP SEMINAR
Wednesday 8 May
11.00
Lecture Theatre

Scaling in Critical Phenomenon

R K P Zia/Southampton

NIMROD LECTURE SERIES
Monday 13 May
11.30
Lecture Theatre

Title to be announced

D Schildknecht

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TELEPHONE DIRECTORY ALTERATIONS

AMENDMENTS				AMENDMENTS	
Delete		Add		Delete	Add
BAUGH DR D J	rm 75	rm 39		COUPLAND DR M	1.85 RI Ext 567
GUBBINS T	rm 76	rm 40		BOSHER W H	9 R20
HOYLAND MRS N	rm 77	rm 41		REED H G	9 R20
GILBERT MRS M	rm 71	rm 72/73		SINDEN J S	9 R20
JACKSON B	rm 41	rm 51		WHITE A D	1 R20
SISSONS J	rm 1A	rm 74		STEVENS G A	1 R20
BUTT R)				SMITH W A H	1 R20
KINGDON B)				DEAN M W	1 R20
STARLING P)	rm 9	rm 75/76		STOKER MRS M	1.34 Ext 270
SMITH F)					2.86 Ext 414/446
JUNKISON MRS P	Admin GA	HEP		Secretary to Mr N M Kino and Mr J Dickson	
BOYD DR D	Ext 521	Ext 493		STOKOE J R	1.31
BISHOP A	rm G13 Ext 6684	rm 1.18 Ext 6692		HOLSMAN B H (Eng NDG)	2.22 Ext 438
YOUNG E W	rm 3.05	rm G13		LUCKOCK R M	2.17 R2 Ext 438
FALCONER D B	rm G8A	rm 3.05		SAYERS B W	R34 Ext 6243
LOUCH K G	rm 1.3 Ext 6687	rm G8A Ext 6684		BLISSETT MRS J A	0.03 R50 Ext 6661
HAROLD M R	rm 2.81 Ext 595	rm 2.58 Ext 262		PAYNE B T	1.77 Ext 6118
REES G H	rm 2.85 Ext 414	rm 2.81 Ext 595		LINTERN A L	1.77 Ext 6118
KING N M		rm 2.85 RI Ext 414		PITTS P R	1.77 Ext 6118
BUGG PROF D V	rm G62 Ext 6324	rm 1.86 Ext 567		STUART MRS G	Ext 301
CARTER DR A A	rm G62 Ext 6324	rm 1.87 Ext 6248		HALL G W	Eng ESD Ext 503
GIBSON DR W R	rm G62 Ext 6324	rm 1.85 Ext 567		BRADLEY J F E	Eng ESD Ext 503
ASTBURY DR A	rm 1.81	rm 1.83		ROSS DR G G	Ext 6138
EISENHANDLER DR E E		rm 1.84 RI Ext 6245		OSLAND C D	2.88 Ext 455
					1.37 Ext 6286
ADDITIONS				ADDITIONS	
MACDONALD CC	C & A Div OPS RI Ext 360			JONES H J	Eng NPA rm 23 R35 Ext 386
POWELL MRS R I W	Sci Admin Library R20 Ext 384			GODFREY MISS P M	NBRU rm 2.2 RI Ext 383
BROWETT MRS S	Admin GA Library 2.51 RI Ext 6693			JACKSON MRS S B	NBRU rm 2.05 RI Ext 418
SHAW T B	Eng R25 rm 2.11/18 Ext 6280			Secretary to Dr L C W Hobbs	

EXTERNAL EVENTS

OXFORD UNIVERSITY

ELEMENTARY PARTICLE PHYSICS SEMINARS/NP LAB - 14.30 hrs
2 May: Dr J Illopoulis/Orsay - Field Theories invariant under Super-Gauge Transformations.
9 May: Dr N McCubbin/CERN - Some Two-Particle Correlation Results in High Energy p p Collisions

COLLOQUIA/CLARENDON LAB - 16.15 hrs

3 May: Prof N F Ramsey/Harvard - The Dipole Moments of the Neutron

10 May: Dr T G Phillips/OMC - Millimetre-Wave Line Astronomy

ELEMENTARY PARTICLE THEORY SEMINAR/NP LAB - 14.20 hrs

10 May: Dr A J Macfarlane/DAMTP, Cambridge - The Renormalisation Group

LOW TEMPERATURE & SOLID STATE PHYSICS SEMINAR/CLARENDON LAB - 14.30 hrs

2 May: Prof A D B Woods/Grenoble - Neutron Scattering and the Dynamics of Liquid 4He

BRISTOL UNIVERSITY

PARTICLE PHYSICS SEMINARS/H H WILLS PHYSICS LAB - 16.00 hrs

30 April: C M Solomonides/Westfield - A Test of C-Violation in the Electromagnetic Decay of the η Meson

14 May: G A Ringland/RL - e^+e^- Physics, the Present and the Future

PHYSICS & GEOPHYSICS COLLOQUIA/SMALL LECT THEATRE, RM G12 ROYAL FORT - 1700 hrs

29 April: Prof H A Blevin/Australia and Swansea - Solar Energy Conversion

6 May: P S Aplin/Bristol - Gravitational Radiation - A Progress Report

13 May: Jon Ogborn/Chelsea - Problems of Improvement in University Physics Training

EVENTS AT HARWELL

NUCLEAR PHYSICS DIVISION COLLOQUIA/CONF RM H8 - 15.30 hrs

2 May: Prof J C Walker/John Hopkins U. - Detection of Thermal Spikes using the Mössbauer Effect following Coulomb Excitation

9 May: Dr E J Robson/OMC - The Cosmic Sub-Millimetre Background Radiation

THEORETICAL PHYSICS SEMINARS/LECT THEATRE H8 & CONF RM H8 RESPECTIVELY - 14.00 hrs

30 April: Dr J A Moriarty/Cambridge - Generalized Pseudopotential Theory to d-Band Metals

7 May: Prof K W H Stevens/Nottingham - Exchange Interactions Between Rare Earth Ions in Insulators

HELLO GIRL SAYS FAREWELL Last Friday, 19 April, Mrs Thompson said farewell to the Laboratory after some ten years service. If that name is unfamiliar to a lot of readers, the smiling face on the photograph should be instantly recognizable as 'Peggy' who has graced the front office of Building R1 for so long.

Dr Valentine, who on behalf of Peggy's many friends, presented her with a number of gifts said he was very sorry to see her go. One of the important things in a laboratory is to greet people in the right way and Peggy had done a magnificent job in the front office. So often she was referred to by visitors as 'the lady who is always smiling'.

John Bellis then rode into the R1 Conference Room on a bicycle which was the present to Peggy. We all know that the Conference Room area is due for demolition but Peggy's efforts on her new 'bike' almost started the work ahead of schedule.

Peggy has sent the following message - "My very grateful thanks for all the lovely gifts I have received from all friends and colleagues at the Rutherford - I am sorry I was not able to see every-one before I left".

Peggy, we all wish you a very happy future and come and see us often - on that bike, but Peggy, do remember to drive on the left hand side of the road, even in the Laboratory.

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LETTER OF THANKS

Ernie Newbold who left the Laboratory recently (at the end of the financial year!) has asked me to say 'thank you' to the friends who contributed to his parting gift, a super Parker pen. He continues - "I am sorry that I could not make some personal calls to say 'cheerio' but send my best wishes to all".

CHRISTIAN FELLOWSHIP

Friday 3 May. All are welcome to join in a time of prayer led by John Thomas of Building R1 at 12.30 in the Conference Room, Building R12.

Friday 10 May. Ephesians chapter 5 is a chapter concerning marriage, Christ and the Church. Jimmy Darius of Building R12 will be leading a Bible Study commencing at 12.30 in the Conference Room, Building R12.

SEVEN-A-SIDE SOCCER LEAGUE

Fixtures for the two weeks beginning 29 April.

Tuesday 30 April	Nomads v Taylors	Tuesday 7 May	Atlas v R.H.G.
Thursday 2 May	R9 v Apprentices	Thursday 9 May	Admin v Bldg 353
Friday 3 May	Trans v Rovers	Friday 10 May	Trans v C.A

The league tables printed below show that the Harwell teams seem to be establishing themselves at the top of Division 1 again and the Rutherford teams will have to do a lot better if they hope to arrest this sort of annual superiority. In Division 2 the competition at the top is very keen with several teams running neck to neck. It could be anybody's title with only goal average separating the four top teams.

Division 1							
Teams	P	W	D	L	F	A	Pts
353	3	3	0	0	10	3	6
Rovers	4	2	1	1	8	6	5
R.25	3	1	1	1	5	5	3
C A Div.	2	0	1	1	3	4	1
Trans.	2	0	1	1	2	3	1
Admin.	0	0	0	0	0	0	0
G.O.	2	0	0	2	2	9	0

Division 2							
Teams	P	W	D	L	F	A	Pts
R.9	3	2	0	1	8	3	4
Taylors	3	2	0	1	8	8	4
Apprentices	4	2	0	2	5	5	4
Nomads	3	2	0	1	3	5	4
Atlas	2	1	0	1	3	1	2
R.H.G.	3	0	0	3	4	9	0

STOP PRESS

SPRING FLOWER SHOW

The Spring Show has been cancelled due to lack of entries.

RUTHERFORD LABORATORY BULLETIN

Published by the Scientific Administration Group

Editor: H F NORRIS

Deadline
for
Insertions

GENERAL & SOCIAL NEWS

INTERNAL & EXTERNAL EVENTS

Tuesday 1600

Wednesday 1200

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Rutherford Laboratory
Chilton Didcot Berks
Abingdon 1900 Ext 484

