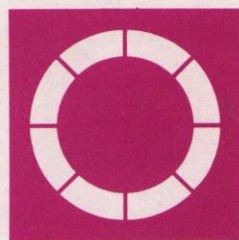


No 24/67
3 July 67



Rutherford Laboratory Bulletin

General News

BULLETIN NOTICE. The next issue of the Bulletin will cover two weeks. The latest date for receiving information for this issue is 9 a.m. Thursday, 6 July.

VISITORS. A party of Students and Staff from the Guildford County Technical College will visit the Laboratory on Monday, 3 July.

RADIATION PROTECTION NOTICE. It is Period 7. Colour strip - ORANGE for $\beta\gamma$ and fast neutron films. Please check that you are wearing the current films and return all old films promptly.

TELEVISION LECTURES. "The Fabric of the Atom". A series of ten lectures entitled "An Introduction to Quantum Mechanics" by Prof. Philip Morrison will be broadcast on successive Tuesdays from 4 July to 5 September 1967 on BBC-2. The broadcasts may be seen in Education & Training Centre, Bldg. 455, AERE. As accommodation is limited those intending to attend are asked to give their names to Mr. E.J.D.Newbold, Personnel Branch, Bldg. R.20, Ext. 585.

OVERSEAS VISIT. Dr. G.H. Stafford to CERN, 4 July to attend a meeting of the Nuclear Physics Research Committee. He will then be attending and lecturing at the Summer School at Erice, Sicily, 5 - 14 July.

S.R.C. HOUSE JOURNAL. An announcement was made in the Bulletin dated 5 Dec. 1966 regarding a house journal to be published by the Council. At that time it was hoped to publish the first issue in April of this year. However this proved difficult due to lack of an editor. The position has now changed with the appointment of Mr. W. Reed as Editor and the first issue is now expected about mid-September. Correspondents from the various establishments had their first meeting with the Editor last week and the proposed scope of the magazine should provide interesting reading. Just a reminder - contributions of all kinds from staff should be sent to the Local Correspondent, H.F.Norris Bldg. R.20, the deadline for the first issue of "Quest" being the end of July.

LECTURE THEATRE FACILITIES. Would arrangers of lectures please note that during the week of the Magnet Technology Conference (10 - 13 July inclusive) the slide projectors, va-graph and tape recording apparatus from the Lecture Theatre will be in use at the Conference Centre at Oxford.

Machine Schedules

NIMROD Cycle 7 (4.7.67 - 25.7.67)

1. Machine Physics XL/K9 Commissioning.

2. High Energy Physics

Team	Beam	Experiment	
AERE/QMC/RHEL	n4	A study of Σ^- beta decay	Data
Bristol Univ.	n5	n^+p differential cross-section measurements	Data
AERE/RHEL/QMC	K7	Σ^- polarization measurements	Data
Univ.Coll. London	K8	K^+p elastic scattering studies	Setting up
Oxford/Liverpool	K1S	Coherent reactions in Helium at ≈ 2 GeV/c	Data
Date	Team	Experiment	
30 June - 4 July		Maintenance and Installation of P.P.S.	
5 - 7 July		Polarization Monitor Calibration	
8 - 17 July	AERE	Polarization in Elastic Scattering and (p,d) on Tin Isotopes	

Internal Events

Mon, 3 July 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Prof. T.D. Lee (Columbia U.)	Field-Current Identities and Algebra of Fields
Mon, 3 July 2.15 p.m. Lecture Theatre	Special Lecture	Dr. R.F. Peierls (Brookhaven)	Scattering of Unstable Particles
Wed, 5 July 2 p.m. Lecture Theatre	Vacuum Panel Lecture	Mr. N. Milleron (Berkeley)	New Vacuum Techniques with Special Reference to Cryo-pumping and Diffusion Pump Baffles
Fri, 7 July 2 p.m., Lecture Theatre	Special Lecture	Prof. S. Fubini (U. of Turin)	A General Treatment of Current Algebra

External Events

EVENT AT AERE Thurs, 6 July 2 p.m., Conf.Rm., Bldg. 8.9	Joint Applied Maths Group Seminar	Dr. J.G. Laski (Imp. Coll.)	Sequencing Parallel Processes in Real and Simulated Time
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Social News

CHRISTIAN FELLOWSHIP. 12.30 p.m., Thursday, 6 July, in the P.L.A. Conf.Rm., R.12. Prayer Meeting. All are welcome.

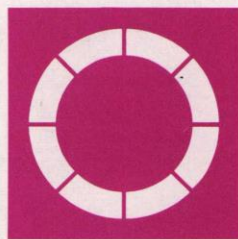
RECREATIONAL SOCIETY. CRICKET. The last issue of the Bulletin carried an announcement of a proposal to form a Rutherford and Atlas Laboratories Recreational Society Cricket Club to organise inter-departmental and inter-establishment cricket matches. Furthermore it was stated that in order for this scheme to proceed a number of interested players are needed and the formation of a management committee is required. An encouraging response from a few members has been received but more effort needs to be made if this proposal is going to get off the ground. So please - don't hesitate any longer. Contact Mr. R. McClure, Ext. 275 or Mr. P. Craske, Ext. 225 for further information as soon as possible.

H.F. Norris, Ext. 484

Scientific Admin. Group,
Building R.20

Rutherford Laboratory
30.6.67

No 25/67
10 July 67



Rutherford Laboratory Bulletin

General News

SCIENTIFIC ADMINISTRATION NOTICE. The majority of the Scientific Administration Group will be in Oxford at the International Magnet Technology Conference, 10 - 13 July inclusive. It is requested that enquiries are either held back until the following week or restricted to urgent matters. These should be directed to Mr. B.E. Kingdon, Ext. 6297, or in his absence to Mr. C.J. Heming, Ext. 6607.

VISITORS. About thirty pupils and members of staff of the St. John's School, Leatherhead will visit the Laboratory on Saturday, 15 July.

Thirty members of the Institute of Electrical Engineers, Southern Branch will visit the Laboratory on Saturday, 22 July.

RADIATION PROTECTION NOTICE. Period 8 commences Monday, 10 July. Colour Strip - GREEN for $\beta\gamma$ and fast neutron films. Please change films promptly and return all old films as soon as possible.

Please ensure that:- 1. Films are worn in the holder correctly with both the number and the colour strip showing in the open window.
2. All the metal filters in the film holders are intact.
If a new holder is required please contact Miss J.A. Towers, R.20, Ext. 430.

MISSING EQUIPMENT. The following item of equipment has been reported missing from the K7 Control Room, Experimental Hall No. 2 since March:- Model 112A, Wide Band D.C. Amplifier, manufactured by Kintel Division, Cohu Electronics.

Anyone with information on this item is asked to contact Mr. R.J. Rice, R.18.

OVERSEAS VISITS. Dr. C.M. Fisher to the U.S.A., 9 - 25 July, to visit the Argonne, Berkeley, Stanford and Brookhaven Laboratories.

Mr. J. Cresswell to CERN on 10 July for a short period to install and check electronic instrumentation.

Dr. G. Stevenson and Mr. D.R. Perry to CERN, 10 - 15 July and 12 - 15 July respectively to continue shielding collaboration experimental runs.

Dr. R.C. Hanna and Dr. J.R. Smith, to Saclay, 12 - 13 July - for discussions on the continuing collaboration on the K^+p survey experiment.

Mr. R.M. Brown and Mr. Shui-yin Lo, to Italy, 14 - 31 July and 17 - 29 July respectively, to attend the Summer School at Varenna.

Dr. N.D. West will leave during the later part of July for the U.S.A. for approx. 18 months. He will be working on the modernisation programme for the Synchro-Cyclotron at the "Nevis" Laboratories of Columbia University.

Machine Schedules

NIMROD Cycle 7 (4.7.67 - 25.7.67)

Machine Physics - XI/K9 Commissioning. High Energy Physics (π^4 , π^5 , K7, K8 and K15)

Full details of Cycle 7 were given in Bulletin No. 24/67.

P.L.A.

Date	Team	Experiment
8 - 17 July	AERE	Polarization in Elastic Scattering and (p,d) on Tin Isotopes.
18 - 24 July	Birmingham	Polarization in Proton Scattering.

Internal Events

Please note that there is no lecture in the Nimrod Series on Monday, 10 July.

Mon, 10 July, 2.15 p.m., Lecture Theatre	Nimrod Proposal Lectures	1. Dr. I. Butterworth (Imp. Coll.)	A Proposal to Study K^+d Interactions in the 2 - 2.5 GeV/c Range
		2. Dr. P. March (Westfield Coll)	A Proposal to Study π^+p Interactions from 1.1 - 1.9 GeV/c
		3. Dr. P. March (Westfield Coll)	A Proposal to Study K^+p and K^+d Interactions from 1.9 - 2.5 GeV/c
Wed, 12 July, 11 a.m., Conf.Rm. Bldg. R.1	HEP Discussion Group	Dr. G. Barton (Sussex)	The Non Relativistic Cabibbo-Radicati Sum Rule

External Events

EVENTS AT AERE

Mon, 10 July, 2 p.m., Conf.Rm., Bldg. 8.9	Theor. Phys. Div. Seminar	Prof. G. Schoeck (Center Atomico, Bariloche, Argentine)	Work-hardening in Alloys with Long Range Order
Thurs, 13 July, 2 p.m., Conf.Rm., Bldg. 8.9	Joint Applied Maths Grp. Seminar	Dr. J.H. Wilkinson (N-P-L)	Almost Diagonal Matrices with Multiple or Pathologically Close Eigenvalues
Thurs, 20 July, 2 p.m., Conf.Rm., Bldg. 8.9	Joint Applied Maths Grp. Seminar	A.R. Curtis (AERE)	Automatic Step Length Control and Error Analysis in Predictor Corrector Methods

Social News

CHRISTIAN FELLOWSHIP. 12.30 p.m. Thurs, 13 July, P.L.A. Conf.Rm., R.12. The Rev. W.H. Mason of Aston, Oxon, will talk on "Jesus Christ" - An Imminent Return?"

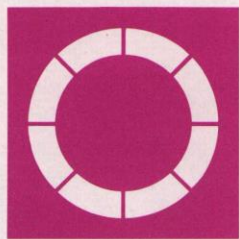
12.30 p.m. Thurs, 20 July, P.L.A. Conf. Rm., R.12. Bible Study on St. John's Gospel, Ch. 19: 1 - 22. All are welcome.

RECREATIONAL SOCIETY. Buffer Supper Dance, Friday, 15 September in the Restaurant in aid of Cricket Club funds. Tickets - 12/6 single. Further details in next Bulletin.

Rutherford Laboratory
7.7.67

H.F. Norris, Ext. 434
Scientific Admin. Group,
Building R.20

Supplement
to No. 25/67
10 July 67



Rutherford Laboratory

Bulletin

SECOND INTERNATIONAL CONFERENCE ON MAGNET TECHNOLOGY

OXFORD, 10-14 JULY, 1967

VISIT TO THE RUTHERFORD LABORATORY

On Friday, 14th July, a party of participants will visit the Laboratory, which will be "open" from 9.30 to 13.30. The estimated number of visitors is about 80.

Nimrod will be shut down between 10.30 and 12.30 to allow access to the Injector Hall, Magnet Hall, Experimental Halls Nos. 1 and 2, Main Control Room and Power Supply Building.

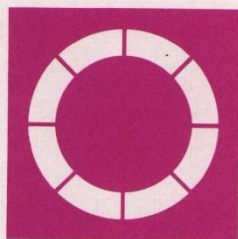
Spectrometer beam-handling and quadrupole magnets, velocity separators and magnet field measuring devices will be exhibited in Building R25.

In Building R1, the IBM Computer and the Superconducting Laboratory will be open. The PLA Experimental Hall in Building R12 will also be open.

Rutherford Laboratory
11.7.67

H. F. Norris, Ext 484
Scientific Admin. Group
Building R20.

No 26/67
24 July 67



Rutherford Laboratory Bulletin

General News

VARIABLE ENERGY CYCLOTRON NEWS. By installing a beam defining slit near the centre of the V.E.C. a beam extraction efficiency of over 70% has recently been obtained. During the last year 24 different beams have been extracted, covering an energy range of 10:1 (for protons) and a range of ion masses 1 to 20 (hydrogen to neon). Amongst these was N^+ at 3 MeV accelerated at an angular velocity of 1/7 of that of the radio frequency ("7th harmonic" operation).

MISSING EQUIPMENT. A delay unit consisting of 36 x 100 nanosecond delays is missing from K7' Local Control Room. The unit is in the form of a 19 inch rack mounted box with an RL blue finished front panel and is inscribed 100 nS DELAY UNIT. Would anyone with information on the present whereabouts of this please contact Miss M. Owen, Ext. 443 or 567.

FOUND. A pair of ladies gloves and a cigarette lighter, in the Restaurant Area. A fountain pen in Bldg. R1. Will the owners of the above items contact the Local Admin. Office, R1.
A Parker pen in the mound area. Will the owner contact the Local Admin. Office, R.20.

RADIATION PROTECTION NOTICE. Period 8 commenced Mon 10 July. Colour Strip - GREEN - for $\beta\gamma$ and fast neutron films. Please check that you are wearing the current films and return all old films promptly.

Machine Schedules

NIMROD Cycle 8 (25.7.67 - 15.8.67)
High Energy Physics

Team	Beam	Experiment	
Bristol Univ.	n5	$n-p$ differential cross-section measurements	Data
AERE/RHEL/QMC	K7	Σ - polarisation measurements	Data
Univ. Coll. London	K8	K^+p elastic scattering studies	Setting up
Oxford/Liverpool	K1S	Coherent reactions in Helium at 2 GeV/c	Data
P.L.A.			

Date	Team	Experiment
25 - 28 July		Maintenance
29 July - 3 Aug	King's Coll. London	Polarization Studies on Cd^{114} , C^{12} and O^{16} at 50 MeV

Internal Events

Mon., 24 July, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. F. Ashton (Durham Univ.)	Search for Quarks in Cosmic Rays
Wed. 26 July, 11 a.m., Conf.Rm., Bldg. R.1	HEP Discussion Group	Dr. N. Cottingham (Birmingham U.)	Electromagnetic Mass Differences and Dispersion Relations
Mon, 31 July, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Prof. G. Burbidge (U. of California La Jolla)	Quasi-stellar Objects

Social News

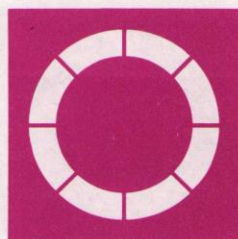
CHRISTIAN FELLOWSHIP. 12.30 p.m., Thurs., 26 July, P.L.A. Conf. Rm., R.12. Bible Study on St. Johns' Gospel, Ch. 19: 23-42. All are welcome.

RECREATIONAL SOCIETY. A Buffet/Supper Dance will be held at the Rutherford Laboratory Restaurant on Friday, 15 Sept. 1967, to raise funds for the proposed Cricket Club. Dancing from 8 p.m. to 1 a.m. to the popular Stan Rogers Band. Price for dance and supper inclusive will be 12/6 per head. If there is sufficient demand, transport may be arranged, at a nominal fee. Enquiries to Mr. E.W. Clark, Bldg. R.8, Ext. 6290.

H.F. Norris, Ext. 484
Scientific Admin. Group,
Building R.20.

Rutherford Laboratory
21.7.67.

No 27/67
31 July 67



Rutherford Laboratory Bulletin

General News

BURSARIES. Applications are invited for awards under the Royal Society and Nuffield Foundation Commonwealth Bursaries scheme beginning during the period January - June, 1968 or later. The closing date for application is 15 September, 1967. Details may be obtained from H.F. Norris, Bldg. R.20, Ext. 484.

MISSING EQUIPMENT. The following item of equipment has been reported missing from the P.L.A. Counting Rooms:-

Creed Keyboard Perforator, Type 7P/N4, Ser. No. 5347.

Anyone with information on the present whereabouts of this item are asked to contact the P.L.A. Electronics Section, Lab.19, Bldg. R.12, Ext. 466.

FOUND. Ladies ring and a small amount of cash. Will owners of these items please contact the Local Administration Office, Bldg. R.1.

OVERSEAS VISIT. Mr. J.M. Burren, to CERN, 2 - 30 Aug, for discussion and work on joint CERN/RHEL bubble chamber programmes.

Machine Schedules

NIMROD Cycle 8 (25.7.67 - 15.8.67)

High Energy Physics (n5. K7, K8 and K1S)

Full details of Cycle 8 were given in Bulletin No. 26/67.

P.L.A.

Date

29 July - 1 Aug.

2 - 7 Aug.

Team

King's Coll., London

Manchester Univ.

Experiment

Polarization Studies in Cd^{114} , Cl^{32} and O^{16} at 50 MeV.

$\text{Li}^6(p, p_e)$ and $\text{Li}^7(p, p_e)$ Polarization Measurements at 30 MeV.

Internal Events

Mon, 31 July, 11.15 a.m.,
Lecture Theatre

Nimrod Lecture Series

Prof. G. Burbidge (U. of Calif.
La Jolla)

Quasi-stellar Objects

Please note that there will be a break in the regular series of Nimrod Lectures from 7 August until 18 September.

Wed, 2 Aug., 11 a.m.,
Conf. Room, Bldg. R.1.

HEP Discussion
Group

Dr. D. Fairlie
(Durham U.)

Schwinger's Chiral Dynamics and the
Pion Mass Difference

External Events

EVENTS AT AERE.

Tues, 1 Aug., 2 p.m., Conf.Rm.
Bldg. 8.9

Theor.Phys.Div. Seminar

Dr. J. Matthew
(U. of York)

Resonance and Instabilities in Ionic
Crystals

Fri, 4 Aug., 2.30 p.m., Conf.
Rm., H.8

Nucl.Phys.Div. Colloq.

Prof. W.A. Fowler
(California Inst.
of Tech.)

Nucleosynthesis in Big Six Little
Bangs.

Social News

CHRISTIAN FELLOWSHIP. 12.30 p.m., Thurs., 3 Aug., P.L.A. Conf.Rm., R.12. Prayer Meeting. All are welcome.

H.F. Norris, Ext. 484
Scientific Admin. Group,
Building R.20.

Rutherford Laboratory
27.7.67