

# RUTHERFORD LABORATORY BULLETIN

No. 110, for the week commencing Monday, 25th February, 1963

## VISITS ABROAD

✓ Dr. D. Mc Mullan of the British National Hydrogen Bubble Chamber Group will visit C.E.R.N. from 25th-29th February to discuss arrangements for the shipment of the Bubble Chamber.

✓ Mr. H. E. Wicks of the High Energy Physics Engineering Group will visit C.E.R.N. from 3rd to 16th March, to study electrical requirements for high energy physics experiments.

## P.L.A.

X The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
28th Feb.-4th March	A.E.R.E.	Elastic Differential Cross Section Measurement at 30 MeV.

## SUMMER SCHOOL IN PHYSICS

✓ The Scottish Universities are holding a summer school in physics on "Strong Interactions and High Energy Phenomena" at Newbattle. Further details and application forms may be obtained from Mr. W. Walkinshaw or Dr. R. G. Moorhouse, Building R.1.

## BURSARIES

✓ Applications are invited for awards under the Royal Society and Nuffield Foundation Commonwealth Bursaries Scheme, for study or research overseas. The closing date for current applications is 15th March. Details may be obtained from Mr. P. J. Clare, Personnel Branch, Building R.20.

## FILMS ON ARTIFICIAL RESPIRATION

X Two films, one on Mouth to Mouth and Mouth to Nose Methods and the other on External Cardiac Massage, are to be shown in the Cockcroft Hall on Wednesday 27th February at 9 a.m., 10.30 a.m., 12 noon, 2 p.m., and 3.30 p.m., and on Thursday 28th February at 9 a.m., 10.30 a.m., and 12 noon.

A bus will leave Building R.8 at 10.15 a.m. on Wednesday 27th February for the benefit of Laboratory staff who may wish to attend.

## INTERNAL EVENTS

Mon., 25th Feb., 11.15 a.m., Conf. Rm., Bldg. R.1.	Nimrod Lecture Series	Dr. R. Phillips (A.E.R.E.)	Regge Phenomenology.
Mon., 25th Feb., 2 p.m., Conf. Rm., Bldg. R.1.	Informal Talk	Dr. N. A. Barricelli (Vanderbilt Univ., Massachusetts).	Numerical Evolution (Work done on Manchester Atlas computer).
Tues., 26th Feb., 4 p.m., Main Conf. Rm., R.1.	Lecture Series	Dr. J. Howlett  (Please note the time and place for this lecture)	Matrix Algebra III.
Tues., 5th March 11.15 a.m., Main Conf. Rm., Bldg. R.1.	Special Lecture	Prof. N. A. Dobrotin (Lebedev Institute, U.S.S.R.)	Some Data on Cosmic Rays obtained from Flights of Soviet Cosmic Apparatus.

There will be no lecture in the "Evening Lecture Series" this week.

## EXTERNAL EVENTS

Tues., 26th Feb., 2.30 p.m., 21 Banbury Road, Oxford.	Nuclear Physics Seminar	Dr. J. Thresher (N.I.R.N.S.)	Meson Baryon Resonances and their Quantum Numbers.
Tues., 26th Feb., 7.15 p.m. Small Town Hall, Reading.	I. Mech. E. Lecture (visitors welcome)	P. T. Houldcroft (British Welding Research Association)	The Development of New Welding Processes.

/Continued Overleaf

Wed., 27th Feb.,  
2 p.m., Bldg. D.2,  
Culham Lab.

Theoretical  
Physics  
Seminar

Dr. K. Moffatt  
(Cambridge Univ.)

Magnetic Turbulence in  
a Low Density Plasma.

Wed., 6th March,  
4.30 p.m., 21 Banbury  
Road, Oxford.

Special  
Lecture

Prof. N. A. Dobrotin  
(Lebedev Institute,  
U.S.S.R.)

General Picture of the  
Nuclear Processes taking  
place at High Energies.

H. F. Norris

Rutherford High Energy Laboratory  
Building R.1.

22nd February, 1963.

CMP

# RUTHERFORD LABORATORY BULLETIN

No.111, for the week commencing Monday, 4th March, 1963

## MEMBERSHIP OF THE INSTITUTE

Professor C. F. Powell, F.R.S., of Bristol University has been appointed a Member of the Institute in succession to Professor D. H. Wilkinson, F.R.S., of Oxford University, whose term of office recently expired.

A broadcast talk by Professor Powell will be included in the B.B.C. Home Service programme "Science Review" at 9.30 p.m. on Thursday, 7th March, when he will report on the recent Royal Society discussion meeting concerning recent European contributions to elementary particle physics.

## VISITS ABROAD

Mr. B. S. Fish and Mr. D. Harvey of the Central Engineering Group will be attached to C.E.R.N. for periods of 18 months and 12 months respectively to assist in the operation of the British National Hydrogen Bubble Chamber.

Dr. J. J. Thresher of the High Energy Physics Group will visit U.C.R.L., Berkeley, California, for three weeks commencing 3rd March, to participate in the analysis of recent experiments on the Bevatron.

Dr. R. Thomas of the Bubble Chamber Group will visit C.E.R.N. from 3rd-5th March, for discussions on Heavy Liquid Bubble Chamber experiments and shielding experiments.

Dr. M. A. R. Kemp and Mr. R. Mackenzie of the High Energy Physics Group will visit C.E.R.N. for approximately six weeks commencing 5th March to participate with Dr. P. J. Duke (already at C.E.R.N.) in experiments on the C.E.R.N. synchro-cyclotron

Mr. S. C. Maskell of the Electronics Group will visit Borer & Co., Switzerland, from 6th-8th March, for discussions on electronic equipment.

Dr. A. M. Segar of the High Energy Physics Group will visit C.E.R.N. for two weeks commencing 8th March, to collaborate with a group working on  $K^+$  interactions.

## VISITORS

Twenty members of the Mathematical and Physical Society of the Royal College of Science, London, will visit the Laboratory on Wednesday, 6th March.

## P.L.A.

The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
4th-9th March	A.E.R.E.	Elastic Differential Cross Section Measurement at 30 MeV.

## ENDEAVOUR PRIZES

Prizes totalling 100 guineas are offered by Imperial Chemical Industries Ltd., publishers of the international scientific review Endeavour, for essays submitted on scientific subjects. The competition is restricted to those whose twenty-fifth birthday falls on or after 1st June, 1963. Further information from Mr. P. Clare, Personnel Section, Building R.20.

## INTERNAL EVENTS

Mon., 4th March, 11.15 a.m., Conf. Rm., Bldg.R.1	Nimrod Lecture Series	Dr. T. Kibble (Imperial Coll., London)	Regge Pole Behaviour of Production Amplitudes
Tues., 5th March, 11.15 a.m., Main Conf. Rm., Bldg.R.1	Special Lecture	Prof. N. A. Dobrotin (Lebedev Institute, U.S.S.R.)	Some Data on Cosmic Rays obtained from Flights of Soviet Cosmic Apparatus
Tues., 5th March, 4 p.m., Conf. Rm., No.4, Bldg.R.1	Lecture Series	Dr. J. Howlett	Matrix Algebra IV

/Continued Overleaf

Wed., 6th March,  
2 p.m., Conf. Rm.,  
Bldg.R.12.

P.L.A.  
Group  
Seminar

Dr. C. J. Batty

Survey of Proton-Proton  
Scattering from 20 to  
50 MeV.

Thurs., 7th March,  
5.30 p.m., Conf.  
Rm., Bldg.R.1.

Evening  
Lecture  
Series

Dr. J. B. Adams  
(Director, Culham  
Laboratory)

Future Accelerators

Mon., 11th March,  
11.15 a.m., Conf.  
Rm., Bldg.R.1.

Nimrod  
Lecture  
Series

Dr. R. K. Adair  
(C.E.R.N.)

Anomalous Regeneration  
of  $K^0_1$  from a  $K^0_2$  - beam.

EXTERNAL EVENTS

Tues., 5th March,  
2.30 p.m., Imperial  
College, London.

Theor.  
Physics  
Seminar

Prof. S. Deser  
(C.E.R.N.)

Can Gauge Vector Mesons  
be Charged?

Wed., 6th March,  
4.30 p.m., 21  
Banbury Road,  
Oxford.

Special  
Lecture

Prof. N. A. Dobrotin  
(Lebedev Institute,  
U.S.S.R.)

General Picture of the  
Nuclear Processes taking  
place at High Energies.

Rutherford High Energy Laboratory,  
Building R.1.

H. F. NORRIS

1st March, 1963

# RUTHERFORD LABORATORY BULLETIN

No. 112, for the week commencing Monday, 11th March, 1963

## VISITORS

✓ Thirty members of the Physical Society, Liverpool University, will visit the Laboratory on Monday, 11th March.

✓ Thirty members of the Poynting Physical Society, Birmingham University, will visit the Laboratory on Wednesday, 13th March.

## VISITS ABROAD

✓ The Director will visit CERN on 11th and 12th March.

✓ Dr. G. Manning of the Nuclear Physics Division, A.E.R.E., who is attached to the Rutherford Laboratory, will visit C.E.R.N., on 12th March for discussions on recent experiments.

✓ Dr. D. J. Thompson and Mr. M. H. R. Donald of the Nimrod R.F. Group, together with Mr. F. H. James of the N.I.R.N.S. Electron Laboratory, will visit C. H. Jucho Ltd. Dortmund, on 18th March, to discuss the manufacture of a large waveguide. They will also visit D.E.S.Y., Hamburg, for discussions on the R.F. System of the Electron Synchrotron, returning on 21st March.

## THE BRITISH COMPUTER SOCIETY

✓ The Laboratory is now a member of The British Computer Society. Details of meetings and study groups organised by the Society are published in 'The Computer Bulletin' which may be seen in the Library.

## P.L.A.

The programme scheduled for the P.L.A. during the current week is as follows:

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
X 12th - 14th March	A.E.R.E.	Elastic Differential Cross Section Measurement at 30 MeV.
15th - 19th March	Oxford University	Cross Section Measurement, N <sup>15</sup> (p, $\gamma$ ).

## BURSARY AND SANDWICH COURSE AWARDS, 1963

✓ The Institute are prepared to offer a limited number of awards to enable staff to undertake full-time or sandwich courses at Universities or Colleges of Technology. Details of these awards may be obtained at the Personnel Branch, and anyone who would like to be considered for such an award should contact Mr. P. Clare, Building R.20, (Ext. 495) without delay.

## INTERNAL EVENTS

Mon., 11th March 11.15 a.m., Conf. Rm., Bldg.R.1.	Nimrod Lecture Series	Dr. R. K. Adair (C.E.R.N.)	Anomalous Regeneration of K <sub>1</sub> <sup>0</sup> , from a K <sub>2</sub> <sup>0</sup> - beam.
Tues., 13th March 4 p.m., Conf. Rm., No.1, Bldg R.1	Lecture Series	Dr. J. Howlett	Matrix Algebra V
Thurs., 14th March 5.30 p.m., Conf. Rm., Bldg. R.1	Evening Lecture Series	Prof. H. Dingle	The Origin and Present State of Special Relativity
Mon., 18th March 11.15 a.m., Conf. Rm., Bldg. R.1	Nimrod Lecture Series	Dr. G. Chew (Cambridge Univ.)	Strong Interactions without Elementary Particles

/Continued

INTERNAL EVENTS (Continued)

Wed., 20th March 11 a.m., Conf. Rm., Bldg. R.1	Special Lecture	Prof. W. E. Burcham (Birmingham Univ/R.H.E.L.)	International Conference on High Energy Physics and Nuclear Structure, C.E.R.N. 1963.
--	--------------------	---	---

EVENTS AT A.E.R.E.

Wed., 13th March 9 a.m., Conf. Rm., B.220	Chem. Div. Colloq.	Dr. C. B. Amphlett	The Variable Energy Cyclotron Project.
---	--------------------------	--------------------	---

EXTERNAL EVENTS

Tues., 12th March 2.30 p.m., 21 Banbury Rd.Oxford.	Nuclear Physics Seminar	Mr. D. J. Crennell (Nuclear Physics Lab. Oxford)	K+p Interactions at 1.5 GeV
Tues., 12th March 2.30 p.m., Imp. Coll. London.	Theor. Physics Seminar	Prof. J. Hamilton (U.C.L.)	Pion-Nucleon Scattering
Wed., 13th March 7 p.m., S.E.B., George St.Oxford	I.E.E. Lecture	Dr. L. M. Haddow and Mr. J. E. C. Williams	Superconductors
Thurs., 14th March 2.30 p.m., Cavendish Lab., Cambridge	Theor. Physics Seminar	Dr. R. J. Eden	Dispersion Theory and the Nuclear Many-Body Problem.

H. F. Norris

Rutherford Laboratory

8th March, 1963.

# RUTHERFORD LABORATORY BULLETIN

No. 113 for the week commencing Monday, 18th March, 1963

## VISITOR:

✓ Dr. E. D. Courant of the Accelerator Development Department, B.N.L., New York, will visit the Laboratory on 20th and 21st March. Anyone wishing to meet Dr. Courant should contact Mr. Walkinshaw's office, Ext. 532.

## P.L.A.

The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
18th - 19th March	Oxford University	Cross Section Measurement, N <sup>15</sup> (p, $\gamma$ ).
20th - 23rd March	N.I.R.N.S.	Neutron Time of Flight.

## INTERNAL EVENTS

Mon., 18th March 11.15 a.m., Conf. Rm., Bldg. R.1	Nimrod Lecture Series	Dr. G. Chew (Cambridge Univ.)	Strong Interactions without Elementary Particles.
Tues., 19th March 4 p.m., Conf. Rm. No. 4 Bldg. R.1	Lecture Series	Dr. J. Howlett	Matrix Algebra VI.
Wed., 20th March 11 a.m., Conf. Rm., Bldg. R.1	Special Lecture	Prof. W. E. Burcham (Birmingham Univ.)	International Conference on High Energy Physics and Nuclear Structure, C.E.R.N. 1963.
Wed., 20th March 2 p.m., Conf. Rm., Bldg. R.12 (There will be no lecture in the Thursday Evening Lecture Series this week).	P.L.A. Group Seminar	Mr. R. S. Gilmore (Queens Univ., Belfast)	Measurement of the Polarization in p-p Scattering at 30 and 50 MeV.
Mon., 25th March 11.15 a.m., Conf. Rm., Bldg. R.1	Nimrod Lecture Series	Dr. E. Pickup	Experiments on Pion Resonances, One Pion Exchange and p- $\omega$ mixing.

## EVENTS AT A.E.R.E.

Tues., 19th March 2 p.m., Conf. Rm., Bldg. 8.9	Theor. Physics Seminar	Mr. N. M. Queen	Nucleon-Deuteron Scattering.
Mon., 18th March: Demonstration of the New "Centronic" Mass-Spectrometer Leak Detector by 20th Century Electronics Ltd., 10 a.m - 4 p.m. Cockcroft Hall. (The outer gates will be open from 10.30 a.m., to 4.30 p.m.)			

## EXTERNAL EVENTS

Tues., 19th March 2.30 p.m., Imp. Coll., London	Theor. Physics Seminar	Dr. E. J. Squires (Edinburgh Univ.)	Can I Calculate the Mass of the Photon?
Tues., 19th March 7.15 p.m., Small Town Hall, Reading	I.Mech.E Lecture (Visitors welcome)	Dr. W. D. Allen (N.I.R.N.S.)	The Development of Van de Graaff Machines and High Voltage Generators.
Wednesday, 20th March, 5.30 p.m. at I.E.E. Headquarters, Savoy Place, London W.C.2: A three-part paper entitled "Magnet Power Supplies for the 7 GeV Proton Synchrotron (NIMROD)" will be presented by a team of joint authors from N.I.R.N.S., English Electric Co. and Brown-Boveri Co. Switzerland.			
Wed., 10th March 6 p.m., Keppel St., London W.C.1	Brit.I.R.E. Computer Grp. Symposium	Mr. C. E. Tate and others (Non-members should obtain tickets from Inst.)	Multi-aperture Ferrite Devices.
1st - 5th April: Laboratory Apparatus and Materials Exhibition at Earls Court, London. (Tickets are available from H. F. Norris).			

Rutherford Laboratory

15th March, 1963

H. F. Norris

# RUTHERFORD LABORATORY BULLETIN

No. 114 for the week commencing Monday 25th March, 1963

## ROYAL SOCIETY ELECTIONS

✓ Dr. J. B. Adams, a Member of the Governing Board of the Institute, and Professor P. T. Matthews, a Consultant to the Institute, have been elected Fellows of the Royal Society.

## ATTACHED STAFF

✓ Mr. A. Schlafke of the Mechanical Engineering Division, Brookhaven National Laboratory, will be attached to the High Energy Physics (Engineering) Group for one month commencing 25th March.

## VISITS ABROAD

✓ The Director will visit C.E.R.N. on the 1st and 2nd April.

✓ Dr. W. A. Smith and Mr. M. M. Cheshire of the Nimrod Beams Group will visit Messrs. Emile Haefely and Co., Basle, and Officine Galileo, Florence, from 25th to 28th March to discuss the manufacture of 600 kV E.H.T. sets and automatic pumping equipment for use with velocity separators for Nimrod.

✓ Mr. J. D. Milne of the Nimrod Magnet Group, Dr. K. D. Srivastava of the Central Engineering Group, and Mr. M. N. Wilson of the Nimrod Beams Group will visit C.E.R.N. from 1st to 3rd April for discussions on pulsed high magnetic fields for nuclear emulsion experiments.

## P.L.A.

X The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
28th-31st March	{ Birmingham University and N.I.R.N.S.	$0^{16}$ p-n
	{ Birmingham University	Double-Scattering in Carbon

## INTERNAL EVENTS

Mon., 25th March 11.15 a.m., Conf. Rm., Bldg. R.1.	Nimrod Lecture Series	Dr. E. Pickup	Experiments on Pion Resonances, One Pion Exchange and p- $\omega$ mixing.
--	-----------------------------	---------------	---

Thursday, 28th March, 10 a.m. - 4.30 p.m., Bldg. R.8: Exhibition by BIR-VAC Ltd. (Cheltenham) of Torr-plan Vacuum Equipment.

Mon., 1st April 11.15 a.m., Conf. Rm., Bldg. R.1.	Nimrod Lecture Series	Dr. A. Clegg (Oxford Univ.)	Proposals for p-p and n-p Experiments at Nimrod.
---	-----------------------------	--------------------------------	--

There will be one further lecture in the series on Matrix Algebra by Dr. J. Howlett. This will be given in the Main Conference Room, Building R.1, on Wednesday, 3rd April, at 10 a.m.

## EVENTS AT A.E.R.E.

Wed., 27th March, 2 p.m., Conf. Rm., Bldg. 8.9.	Theor. Physics Seminar	Dr. D. Willmore	Neutron Scattering and the Optical Model.
---	------------------------------	-----------------	---

## EXTERNAL EVENTS

1st-5th April: Laboratory Apparatus and Materials Exhibition, Earls Court, London. (Tickets are obtainable from H. F. Norris. A catalogue is available).

22nd March, 1963.

H. F. Norris  
Scientific Administration

# RUTHERFORD LABORATORY BULLETIN

No.115 for the week commencing Monday, 1st April, 1963

## VISITORS

Members of the Abingdon Borough Council will visit the Laboratory on Thursday, 4th April.

## P.L.A.

The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
1st-3rd April	Birmingham University	Double-Scattering in Carbon
4th-6th April	N.I.R.N.S.	(p-He) Differential Cross-Sections.

## ACCELERATOR NEWS

Congratulations to Manchester University. Message received from Frank James as follows:- "The whole of the Heavy Ion Linac is now working. A beam of 40 MeV alpha particles has been obtained with a current of 120 microamperes".

## CONFERENCE

The Institute of Physics and the Physical Society will hold a Conference on "Low and Medium Energy Nuclear Physics" at the University, Manchester, from 4th-6th September, 1963. Short contributed papers will be welcomed and should be sent before 21st June. Further information may be obtained from H. F. NORRIS, Bldg. R.32, Ext.484.

## EXTERNAL COURSE

A laboratory and lecture course on the Design, Use and Maintenance of Electronic Equipment used in Nuclear Physics (with Radiochemistry and Radioisotope applications) will be held at the Borough Polytechnic, London S.E.1. from 24th June to 5th July. An additional, optional, preliminary course from 17th to 21st June is also offered. Full details may be obtained from Mr. P. Clare, Personnel Branch, Building R.20, Ext.495.

## ADMINISTRATION NOTICE

Will the person who borrowed the catalogues of steel furniture and filing cabinets from General Administration please return them promptly to Mr. J. T. Reader, Room 2-30, Bldg. R.25.

## INTERNAL EVENTS

Mon., 1st April, 11.15 a.m., Conf. Rm., Bldg.R.1	Nimrod Lecture Series	Dr. A. Clegg (Oxford Univ.)	Proposals for p-p and n-p Experiments at Nimrod.
--	-----------------------------	--------------------------------	--

There will be one further lecture in the series on Matrix Algebra by Dr. J. Howlett. This will be given in the Main Conference Room, Building R.1, on Wednesday, 3rd April at 10 a.m.

Wed., 3rd April, 2 p.m., Conf. Rm., Bldg.R.12	P.L.A. Group Seminar	Mr. G. Lush (U.C.L.)	Measurement of the D parameter for p-p scattering at 50 MeV.
Thurs., 4th April, 5.30 p.m., Conf. Rm., Bldg.R.1	Evening Lecture Series	Dr. J. V. Jelley (A.E.R.E.)	Masers and their application to Radio Astronomy.
Mon., 8th April, 11.15 a.m., Conf. Rm., Bldg.R.1	Nimrod Lecture Series	Dr. D. Perkins (Bristol Univ.)	Possibility of Neutrino Experiments at Nimrod.

It is proposed to commence two further series of lectures in the near future:  
(i) Accelerator Lectures and (ii) Accelerator Colloquia. All those interested are invited to an introductory talk in respect of both series, to be given by Mr. T. R. Walsh in the Main Conference Room, Building R.1, on Tuesday, 9th April at 4.30 p.m.

Contd. Over

# RUTHERFORD LABORATORY BULLETIN

## EVENTS AT A.E.R.E.

Thurs., 4th April, 5.45 p.m., Reactor School	A.S.E.E. Lecture	Mr. K. G. Goodman (H.M. Elect. Inspector of Factories)	Electrical Safety - Practical Experience.
--	---------------------	--	--

## EXTERNAL EVENTS

Tues., 2nd April, 5.30 p.m., Savoy Place, London W.C.2.	I.E.E. Lecture	Mr. J. K. Wright and Mr. P. D. Dunn	New Methods for the Generation of Electricity.
Mon., 8th April, 2.30 p.m., Savoy Place, London W.C.2.	I.E.E. Discussion Meeting	W. F. Gauster and others	Applications of Superconducting Materials.

Building R.32,  
Rutherford Laboratory.

H. F. NORRIS

29th March, 1963

EXTERNAL COURSE

A laboratory and lecture course on the subject of "The Development of High Voltage Equipment" will be held at the Rutherford Laboratory, Building R.32, from 2nd to 8th April. An additional, optional, practical course from 10.15 to 12.15 will also be offered. Full details may be obtained from Mr. P. D. Dunn, Technical Branch, Building R.32, Rutherford Laboratory, A.E.R.E., Reading, RG6 2AH. Tel. 0493 544444.

ADMINISTRATIVE NOTICE

Will the person who controls the catalogue of leaf folders and filing cabinets for the Rutherford Laboratory please refer any requests to Mr. J. L. Baxter, Room 3.30, Bldg. R.32.

INTERNAL EVENTS

Mon., 1st April, 11.15 a.m. - 1.15 p.m. Lecture by Mr. J. K. Wright on "New Methods for the Generation of Electricity".

Tues., 2nd April, 5.30 p.m. Lecture by Mr. P. D. Dunn on "Applications of Superconducting Materials".

Thurs., 4th April, 5.45 p.m. Reactor School.

MEASUREMENT OF THE D

Measurement of the D parameter for p-p and p-p interactions at 20 MeV. Lectures and talks on application to Radio Astronomy.

Mon., 1st April, 11.15 a.m. - 1.15 p.m. Lecture by Mr. J. K. Wright on "New Methods for the Generation of Electricity".

Tues., 2nd April, 5.30 p.m. Lecture by Mr. P. D. Dunn on "Applications of Superconducting Materials".

Thurs., 4th April, 5.45 p.m. Reactor School.

IT IS PROPOSED TO COMPOSE THE FURTHER SERIES OF LECTURES IN THE YEAR ENDING

(i) Accelerator Technology and (ii) Accelerator Applications. All those interested are invited to submit their views to the person in charge of the series, Mr. T. H. Walsh in the Main Conference Room, Building R.32, Rutherford Laboratory, Reading, RG6 2AH.

# RUTHERFORD LABORATORY BULLETIN

No.116 for the fortnight commencing Monday 8th April, 1963

## VISITOR

✓ Mr. Lewis A. Law, Head of the Electronics Division, Cambridge Electron Accelerator Laboratory, Massachusetts, will visit the Laboratory on 10th April for discussions with Mr. Wilde and Mr. Kandiah.

## VISITS ABROAD

✓ Mr. W. H. Boshier of the Central Engineering Group and Mr. R. Sheldon of the Nimrod Operations Group will visit C.E.R.N. from 7th to 11th April, for discussions on the manufacture of spark chambers, scintillators and hydrogen targets.

✓ Mr. J. A. Fox will visit C.E.R.N., Messrs. Brown-Boveri and the Oerlikon Engineering Co., Zurich, and A.C.E.C., Brussels, from 16th to 26th April, in connection with the Electron Synchrotron project.

✓ Mr. A. Carne and Mr. K. Batchelor of the P.L.A. Group will visit C.E.R.N. from 21st to 26th April for discussions on very high energy accelerators.

✓ Dr. G. H. Stafford, Mr. W. Walkinshaw and Mr. J. D. Lawson, together with Mr. E. J. Jones and Mr. T. C. Randle of the Cyclotron Group, will visit C.E.R.N. from the 22nd to 27th April to attend the 1963 International Conference on Sector-focused Cyclotrons and Meson Factories.

Dr. T. G. Walker of the High Energy Physics Group returned on 1st April from a long-term attachment to C.E.R.N. His office is in Room 1-79, Building R.1, Ext.408. Mr. J. F. Crawford of the same Group has also returned from C.E.R.N. (Room 1-9, Building R.1, Ext.6614).

## HYDROGEN BUBBLE CHAMBER

✓ The inner chamber and vacuum vessel, the last major items of the British National Hydrogen Bubble Chamber, are due to leave the Laboratory on Friday, 19th April, en route to C.E.R.N. Most of the members of the Hydrogen Bubble Chamber Group are now at C.E.R.N. Dr. D. McMullan of Imperial College, who will be in charge of the Hydrogen Chamber at C.E.R.N., is due to leave on 2nd May.

## CONSULTANT

✓ Dr. L. Fox, Head of the Computing Laboratory, Oxford University, has been appointed a Consultant to the Atlas Computer Laboratory as from 1st May, 1963. His sponsor is Dr. J. Howlett.

## P.L.A.

The programme scheduled for the P.L.A. during the current fortnight is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
11th-16th April	N.I.R.N.S.	Neutron Time of Flight.
17th-18th April	N.I.R.N.S.	Accelerator Physics.
19th-20th April	Queen Mary College.	Polarization Monitor Check.

## EXTERNAL COURSE

✓ A Summer School in High Energy and Elementary Particle Physics, sponsored by the University of Paris, will be held at Cargèse, Corsica from 1st to 20th July, 1963. The closing date for applications is 20th April. Details and application forms may be obtained from H. F. Norris, Building R.32, Ext.484.

## VACANCY NOTICE

Information has been received about a vacancy for a research technician in the Physics Department of the University of Auckland, New Zealand. Further details may be obtained from Dr. Hobbs, Building R.1, Ext.418.

## INTERNAL EVENTS

Mon., 8th April, 11.15 a.m., Conf. Rm., Bldg. R.1	Nimrod Lecture Series	Dr. D. Perkins (Bristol Univ.)	Possibility of Neutrino Experiments at Nimrod.
---	-----------------------------	-----------------------------------	---

/contd. over

# RUTHERFORD LABORATORY BULLETIN

## INTERNAL EVENTS (contd.)

It is proposed to commence two further series of lectures in the near future:  
(i) Accelerator Lectures and (ii) Accelerator Colloquia. All those interested are invited to an introductory talk by Mr. T. R. Walsh in the Main Conference Room, Building R.1, on Tuesday, 9th April at 4.30 p.m.

Thurs., 18th April, 3.30 p.m., Conf. Rm., Bldg. R.1	Special Lecture	Mr. D. W. Berry (Hilger and Watts Ltd.)	Precise Surveying and Alignment of Large Machines and Structures.
Mon., 22nd April, 11.15 a.m., Conf. Rm., Bldg.R.1	Nimrod Lecture Series	Dr. P. Burke (A.E.R.E.)	Information obtained on High Energy Physics from a Pion- Pion Scattering Calculation.

Building R.32,  
Rutherford Laboratory.

H. F. NORRIS

5th April, 1963

# RUTHERFORD LABORATORY BULLETIN

No. 117, for the week commencing Monday, 22nd April, 1963

## VISITOR

✓ Mr. F. F. Turnbull, Secretary of the Office of the Minister for Science, will visit the Laboratory on Thursday, 25th April, and will give a lecture in the Thursday Evening Series (see "Internal Events" below).

## VISITS ABROAD

✓ Mr. J. F. MacEwan of the Bubble Chamber Group will visit C.E.R.N. for approximately one week commencing 21st April, for discussions on flying spot scanning devices.

✓ Dr. D. J. Clark of the Cyclotron Group will attend the 1963 International Conference on Sector-focused Cyclotrons and Meson Factories, to be held at C.E.R.N. from 22nd to 29th April.

✓ Dr. P. J. Duke of the High Energy Physics Group, who is at present in the U.S.A., will attend a meeting of the American Physical Society at Washington on 22nd to 25th April and also visit the Brookhaven National Laboratory for discussions on 29th and 30th April, before returning on 6th May.

## P.L.A.

X The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
26th-29th April	Birmingham Univ. & N.I.R.N.S.	Polarimeter Calibration.

## ACCELERATOR NEWS

✓ The following telegram was received from Professor Milton G. White on 16th April:-

"Princeton Pennsylvania accelerator has successfully accelerated protons to three billion electron volts (3 GeV) at a pulse rate of 19 cycles per second."

## EXTERNAL COURSE

✓ An International School of Physics on "Present Problems in Strong, Electro-magnetic and Weak Interactions", sponsored by C.E.R.N., the Italian Government, and the Italian Physical Society, will be held at Eryx, Sicily, from 26th May to 8th June. The closing date for applications is 10th May. Details may be obtained from B. E. Kingdon, Building R.32, Ext. 484.

## ADMINISTRATION NOTICE

X Will the person who borrowed the catalogues of steel furniture and filing cabinets from General Administration please return them promptly to Mr. J. Reader, Room 2-30, Building R.25.

## INTERNAL EVENTS

Mon., 22nd April, 11.15 a.m., Conf. Room, Bldg. R.1.	Nimrod Lecture Series	Dr. P. Burke (A.E.R.E.)	Information obtained on High Energy Physics from a Pion- Pion Scattering Calculation.
--	-----------------------------	----------------------------	---

It is proposed to commence two further series of lectures in the near future:  
(i) Accelerator Lectures and (ii) Accelerator Colloquia. All those interested are invited to an introductory talk by Mr. T. R. Walsh in the Main Conference Room, Building R.1, on Wednesday, 24th April at 4.30 p.m. (Postponed from 9th April).

/Continued Overleaf

Thursday, 25th April: Mobile Exhibition of Precision Electronic Measuring Equipment by Solartron Ltd. (Complete range of current models). 10 a.m.-4 p.m., adjacent to Building R.20.

Thurs., 25th April, Evening Mr. F. F. Turnbull The Work of the Office of  
5.30 p.m., Conf. Lecture the Minister for Science.  
Room, Bldg. R.1. Series

Mon., 29th April, Nimrod Dr. J. S. Bell Neutrino Reactions.  
11.15 a.m., Conf. Lecture (C.E.R.N.)  
Room, Bldg. R.1. Series

EXTERNAL EVENTS

Mon., 22nd April, I.E.E. Opened by Hybrid Digital-Analogue  
5.30 p.m., Savoy Discussion Mr. D. Leighton- Computation  
Place, London W.C.2. Meeting Davies

23rd April-2nd May: London International Engineering and Welding Exhibitions, at Olympia and Earls Court. (Combined tickets may be obtained from B. E. Kingdon, Building R.32, Ext. 484).

Wed., 24th April, Theor. Dr. J. C. Polkinghorne High Energy Behaviour  
2.30 p.m., Imperial Physics (Cambridge University) in Perturbation Theory.  
College, London. Seminar

Wed., 24th April, I.E.E. Mr. P. D. Dunn In-pile Diode Experiments  
5.30 p.m., Savoy Lecture (A.E.R.E./N.I.R.N.S.) in Connection with  
Place, London W.C.2. Thermionic Power  
Generation.

Thurs., 25th April, I.E.E. Dr. J. B. Adams High-Energy Accelerators  
5.30 p.m., Savoy Kelvin (Director, Culham for Nuclear Physics  
Place, London W.C.2. Lecture Laboratory) Research.

Mon., 29th April: I.E.E. Colloquium on Components and Devices for Computers. 2.30 p.m. and 5.30 p.m. at Savoy Place, London W.C.2.

Mon., 29th April: Institution of Engineering Designers Conference on Systematic Methods of Design. At Cromwell Hall, Earls Court, London. (Tickets may be obtained from the Secretary of the Institution, 38 Portland Place, London W.1.)

B. E. Kingdon

Building R.32,  
Rutherford High Energy Laboratory.

19th April, 1963.

# RUTHERFORD LABORATORY BULLETIN

No.118, for the week commencing Monday, 29th April, 1963

## VISITORS

The following American scientists are expected to visit the Laboratory on the dates given below. Anyone wishing to see them should contact the member of staff indicated. Where no name is given, contact may be made through Mr. J. D. Lawson (Ext.6128).

29th and 30th April	Dr. J. E. Young	Los Alamos Scientific Laboratory. (Mr. A. Carne Ext.206).
29th April to 1st May	Dr. H. C. Hoyt	Los Alamos Scientific Laboratory. (Mr. A. Carne Ext.206).
29th April to 3rd May	Dr. A. D. McGuire	Los Alamos Scientific Laboratory. (Mr. K. Batchelor Ext.221).
30th April	Dr. G. Wheeler	Yale University. (Mr. J. Dickson Ext.446).
1st and 2nd May	Dr. Gordon	Michigan State University.
6th and 7th May	Dr. R. S. Livingston	Director, Electronuclear Division, Oak Ridge Nat. Lab.
6th May	Dr. J. J. Livingood and Dr. Warren Ramler	Physics Division, Argonne Nat. Lab.
8th May	Dr. S. C. Snowden	Head, Magnet Group, M.U.R.A. (Mr. W. Walkinshaw Ext.532).
8th May	Dr. D. E. Young	Head, Linac Group, M.U.R.A. (Mr. W. Walkinshaw Ext.532).
8th or 9th May	Dr. E. Kelly and Dr. H. Grunder	Lawrence Radiation Laboratory, Berkeley.
8th or 9th May	Dr. H. Blosser	Michigan State University.
13th and 14th May	Dr. R. Smith	Lawrence Radiation Laboratory, Berkeley.

## VISITS ABROAD

Dr. J. Howlett, Director of the Atlas Computer Laboratory, and Mr. W. Walkinshaw of the Theoretical Physics Group will visit C.E.R.N. from the 30th April to 6th May and 30th April to 2nd May respectively, to attend a conference on future computer requirements.

## P.L.A.

The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
29th April	Birmingham Univ and N.I.R.N.S.	Polarimeter Calibration.
30th April-3rd May	Queen Mary College.	Helium Polarimeter Calibration.

## SYMPOSIUM ON NEUTRON BEAM RESEARCH

A symposium on university research requiring neutron beam facilities from high flux reactors, will be held at the Laboratory on Wednesday, 1st May.

## LECTURE NOTES

Copies of notes for Dr. W. Galbraith's lecture on "High Energy Physics" in the "Fundamentals of Accelerators" Series may be obtained from Mr. T. R. Walsh, Room 2-81, Building R.1, Ext.438.

## INTERNAL EVENTS

Mon., 29th April, 11.15 a.m., Conf. Room, Bldg.R.1	Nimrod Lecture Series	Dr. J. S. Bell (C.E.R.N.)	Neutrino Reactions.
Mon., 6th May, 11.15 a.m., Conf. Room, Bldg.R.1	Nimrod Lecture Series	Prof. A. Salam (Imperial College)	Subject to be announced later.

Contd. over/

# RUTHERFORD LABORATORY BULLETIN

## EVENTS AT A.E.R.E.

Tues., 30th April, 10 a.m.-4.30 p.m., Games Rm., Social Club	Exhibition	Thorn Electronics Ltd.	Instrumentation and Process Control Equipment.
Wed., 1st May, 2 p.m., Conf. Rm., Bldg.8.9	Theor. Phys. Div. Seminar	Dr. M. J. Seaton (Univ. College London)	The Theory of Ionising Collisiohs.

## EXTERNAL EVENTS

Mon., 29th April : I.E.E. two-part Colloquium on "New Components for Computers", at Savoy Place, London W.C.2. Session I at 2.30 p.m. is on "Miniaturisation and Tunnel-Diodes", and Session II at 5.30 p.m. is on "Cryogenics and Opto-Electronics".

29th April-2nd May : London International Engineering and Welding Exhibitions, at Olympia and Earls Court. (Combined tickets may be obtained from H. F. Norris, Building R.32, Ext.484. A catalogue is available).

Tues., 30th April, 6 p.m., 1 Birdcage Walk, London S.W.1.	Inst. Mech Engineers Meeting	-	Discussion on "Mathematical Tools for an Engineer".
---	------------------------------------	---	---

Fri., 3rd May, 4.15 p.m., Clarendon Lab., Oxford.	Physics Colloquium	Dr. N. W. Tanner (Oxford Univ.)	Fluctuations in Nuclear Reactions and Radio Astronomy.
---	-----------------------	------------------------------------	---

5th-15th May : Mechanical Handling Exhibition, Earl's Court, London. (Tickets may be available later).

Building R.32,  
Rutherford Laboratory.

H. F. NORRIS

25th April, 1963

# RUTHERFORD LABORATORY BULLETIN

No.119 for the week commencing Monday, 6th May, 1963.

## P.L.A.

The programme scheduled for the P.L.A. during the current week is as follows:-

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
9th-12th May	Queen Mary College	Measurement of "A" parameter at 50 MeV.
13th May	Belfast University and Westfield College	(p-d) polarisation at 50 MeV.

## PORTABLE ELECTRIC TOOL INVENTORY

Following the distribution of portable electric tool inventory sheets within the Laboratory, a number of these have still not been returned. Will holders please complete the sheets as required and return them to their Local Administration Officer. Anyone in possession of electrical tools who did not receive a sheet may obtain one by contacting Mr. C. Hodgson, (Ext. 372), Services Record Office, Building R.1

## INTERNAL EVENTS

Mon., 6th May 11.15 a.m., Conf. Room, Bldg. R.1	Nimrod Lecture Series	Prof. A. Salam (Imperial College)	(Subject to be announced later).
Thurs. 9th May, 5.30 p.m., Conf. Room, Bldg. R.1	Evening Lecture Series	Dr. D.G.King-Hele (R.A.E., Farnborough)	Discoveries from Satellite Orbits.
Mon., 13th May, 11.15 a.m., Conf. Room, Bldg. R.1	Nimrod Lecture Series	Dr. G. Chadwick (Oxford Univ.)	Proposed 3.5 GeV/c K <sup>-</sup> -Experiments on the M2 Beam at CERN.

Tues., 7th May, 11 a.m.: Demonstration of Universal Electronic Clock-Gauge Equipment by Messrs. A. Capp & Sons, Ltd., Crayford, Kent. (Place to be arranged). Details may be obtained from Mr. C. Bannister, Room 261, R.1 Link, (Ext. 259 or 264).

## EVENTS AT A.E.R.E.

A 30-minute telerecording of the B.B.C. programme "The Friendly Dragon", which featured the work of A.E.E. Winfrith and the DRAGON Project, will be shown in the Cockcroft Hall at 1.15 p.m. on 7th May. (Outer gate open, inner gate manned).

Tues., 7th May 2 p.m., Conf. Room, Bldg. 8.9	Theor. Phys.Div. Seminar	Dr. M.L.Mahta (Princeton)	The Theory of Nuclear Level Densities.
--	--------------------------------	------------------------------	---

## EXTERNAL EVENTS

Tues., 7th May 2.30 p.m., Imperial College, London.	Theor. Physics Seminar	Mr.D.Atkinson (U.C.L.)	Effect of $\pi-\pi$ Scattering on Other Processes.
Tues., 7th May 5.30 p.m., Savoy Place, London, W.C.2	I.E.E. Lecture	Prof. Sir Harrie Massey (U.C.L.)	Scientific Research in Space.
Wed., 8th May, 6 p.m., Veppel St., London, W.C.1	Brit.I.R.E. Computer Group Mtg.	Messrs.M.Burchall, A. Thomas and D. J. Gray	Semiconductor Controlled Power Supplies in Data Processing.

15th and 16th May: Open Days at the National Physical Laboratory, Teddington. (A few tickets and programmes are available from H. F. Norris, Building R.32, Ext. 484).

Building R.1  
3rd May, 1963.

H. F. Norris  
Scientific Administration

MSG