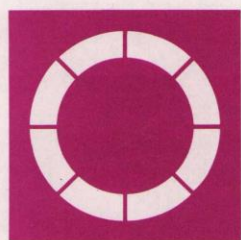


No. 44/66
7 Nov. 66



Rutherford Laboratory Bulletin

General News

ABERFAN DIASTER We are pleased to announce that, as a result of the collection made last week at the Atlas and Rutherford Laboratories, a cheque for £62 has been forwarded to the Mayor of Merthyr Tydfil.

FOUND A sum of money was recently found outside Building R.22. It may be claimed from the Admin. Office, Building R.1.

LOST Will the person who removed a Chambers Technical Dictionary from the Admin. Office, Building R.20 please return it as soon as possible.

VISITORS About 50 members of the Queen Mary College Physical Society will visit the Laboratory on Saturday, 12 November.

Machine Schedules

NIMROD Period 2 - Cycle 8 (1.11.66.-22.11.66.)
Machine Physics; High Energy Physics (π^+ , K $^+$, K 0 and π^0)
Full details of Cycle 8 were given in Bulletin No. 43/66.

P.L.A.

Date	Team	Experiment
8-9 Oct		Maintenance
10-14 Nov	Oxford U.	(no details at time of going to press)

Internal Events

Mon, 7 Nov, 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. H.J. Sherman (QMC)	The Production of Nucleon Isobars in Proton-Proton Collisions
Mon, 14 Nov, 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. G. Manning	$K_L^0 \rightarrow 2\pi^0$ Decay

EXHIBITION - Messrs. Ferranti Ltd. will demonstrate a range of their products, including items for the new "Argus" Computer, in the Main Conf. Rm., R.1., 10 a.m. - 4 p.m., Thursday, 10 Nov. (Details available from B.E. Kingdon, Ext. 6297).

External Events

Mon, 7 Nov, 4.45 p.m. Univ. of Bristol	Physics Colloq	Dr. B. Watrasiewicz (British Aircraft Corp. Filton)	Holography and its Use in Optical Processing of Information
Mon, 7 Nov, 4.15 p.m. Queen Mary College	Theor. Phys. Seminar	Prof. E.H. Sondheim (Westfield Coll.)	Anisotropic Electron Scattering in Metals
Mon, 7 Nov, 7.30 p.m. Great Western Hotel, Reading.	ASEE District Meeting	H. Goddard (Exeter Technical Coll.)	Principles of Computer Programming
Tues, 8 Nov, 7.30 p.m. Clarendon Lab, Oxford	IERE Thames Valley Meeting	E. Wolfendale (Tech Director, Racal Research Ltd.)	Circuit Design Using Digital Computers
Tues, 8 Nov, 2.30 p.m. 21 Banbury Rd, Oxford	Nuclear Physc. Seminar	I.P. Johnstone	Structure of ^{43}Sc
Thurs, 10 Nov, 4.15 p.m. Clarendon Lab, Oxford	Theor. Phys. Seminar	Dr. I.M. Falicov (Chicago & Cambridge)	Magnetic Breakdown and the de Haas-van Alphen Effect
Wed, 9 Nov, 3 p.m. Cavendish Lab, Cambridge	HEP Group Seminar	Dr. R.J.N. Phillips (Havisell)	Regge Poles in High Energy Scattering

EVENT AT AERE

Thurs, 10 Nov, 3.30 p.m. Conf. Rm., H.8	Nuc. Phys. Div. Colloq	Dr. M. Goldberg (Brookhaven)	The Compilation of Neutron Cross-Section Data
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EVENT AT CULHAM

Thurs, 10 Nov, 2 p.m. Conf. Rm., Bldg. E.6	Joint Applied Maths Grp Seminar	Mr. B. Allen (Culham)	A New Method for Direct Solution of Elliptic Difference Equations
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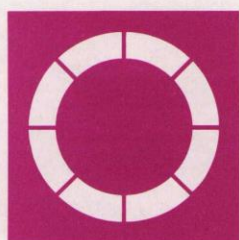
Social News

RECORD SOCIETY 12.30 p.m., Tuesday, 8 Nov., Lecture Theatre

"It might as well be swing", a combined effort by the Count Basie Band and Frank Sinatra.

CHRISTIAN FELLOWSHIP "The Christian's Attitude to the New Testament" - a talk by a company director, Mr. Phil. Charters of W. Bunce's, Ashbury, in the P.L.A. Conf. Rm., R.12, Thursday, 10 Nov. at 12.30 p.m. All are welcome.

No. 45/66
14 Nov 66



Rutherford Laboratory Bulletin

General News

VISITORS A party of 30 Sixth Form Pupils from the Cavendish Grammar School, Hemel Hempstead, will visit the Laboratory on Saturday, 19 November.

RADIATION PROTECTION NOTICE - Film Badge Issues. It is now Period 12, Colour Strip - Green. Please check that you are wearing the correct film. A number of fast neutron films for previous periods have not been returned particularly from experimenters. These should be returned as soon as possible.

OVERSEAS VISITS Dr. L.C.W. Hobbs to CERN, 13-16 Nov., to attend meeting of ECFA Working Group 2 and for discussions. Dr. J.J. Thresher, to CERN, 13-15 Nov, to attend meeting of ECFA Committee. Dr. G. Manning to CERN, 15-16 Nov, to attend the NPRC meeting.

Machine Schedules

NIMROD Period 2 - Cycle 8 (1.11.66. - 22.11.66.)
Machine Physics; High Energy Physics (θ_1 , K7, K1 and π_4)
Full details of Cycle 8 were given in Bulletin No. 43/66

P.L.A.

Date	Team	Experiment
14-15 Nov	Oxford U.	Pick-up Reactions on Ca^{40} , Using Polarized Protons
16-24 Nov	RHEL & QMC1	Polarization in the Scattering of Protons by Cr^{53} and Cr^{54}

Internal Events

Mon, 14 Nov, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. G. Manning	$K_L^0 \rightarrow 2\pi^0$ Decay
Tues, 15 Nov, 2 p.m. Lecture Theatre. Nimrod Ops. 2 Meeting - followed by:			
Nimrod Proposal Lectures	Dr. G. Manning Dr. K.F. Riley (Camb.)	1. A Proposal to Measure Amplitude for $\Delta S = -\Delta Q$ Interactions 2. A Proposal for a Study of Tau and K_{e4} Decay	
Mon, 21 Nov, 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. A. Martin (C.E.R.N.)	Analyticity from Field Theory and Unitarity
EXHIBITION of Electrical & Electronic Equipment, by Magnetic Devices Ltd., Newmarket, Main Conf. Rm, R.1. 9.30 a.m. - 4 p.m. Thursday, 17 Nov. (See Notice Boards or ring B.E. Kingdon, Ext 6297, for details).			

External Events

Mon, 14 Nov, 4.15 p.m. Queen Mary College	Theor. Phys. Seminar	Prof. L. Castillejo (Oxford & Univ. Coll.)	Angular Distribution in Nuclear Reactions
Tues, 15 Nov, 2.30 p.m. 21 Banbury Rd, Oxford	Nuclear Physics Seminar	Prof. L. Castillejo	Time Reversal Invariance.
Wed, 16 Nov, 3 p.m. Cavendish Lab. Cambridge	HEP Group Seminar	Dr. W.N. Cottingham (Birmingham)	The Neutron-proton Mass Difference from Dispersion Relations
Thurs, 17 Nov, 2.30 p.m. Clarendon Lab. Oxford	Low Temp. & Solid State Physics Colloq. (Univ. of Essex)	Dr. R. Loudon	Optical Properties of Antiferromagnets
Thurs, 17 Nov, 2.30 p.m. Dept of Eng. Sci. Oxford.	Joint Applied Maths Gp Seminar	Prof. A.S. Householder (Oak Ridge National Lab.)	Hankel Determinants, Resultants and Continued Fractions
Fri, 18 Nov, 4.15 p.m. Clarendon Lab, Oxford	Colloq.	Dr. D.G. King-Hele, FRS (Min. of Aviation Farnborough)	The Geophysical Use of Satellite Orbits
EVENTS AT AERE			
Tues, 15 Nov, 2 p.m. Conf. Rm Bldg 8.9	Theor. Phys. Div. Seminar	Dr. R.W.P. McWhirter (Culham)	Interpretation of Visible and Ultraviolet Spectra of Laboratory Plasmas
Thurs, 17 Nov, 3.30 p.m. Conf. Rm, H.8	Nuclear Phys. Div. Colloq.	Dr. T.M. Braid (Argonne Nat. Lab.)	(d,p) and (d,t) Reactions in Actinide Elements.

Social News

RECORD SOCIETY. 12.30 p.m. Tuesday, 15 Nov, Lecture Theatre.

Beethoven's Piano Concerto No.5 in E \flat , "The Emperor". A stereo recording by the Berlin Philharmonic, conducted by Leintner with Wilhelm Kempff as the soloist. The "Emperor" is widely recognized as the greatest of all piano concertos and with Kempff, a specialist in the interpretation of Beethoven as the soloist, a brilliant performance is assured.

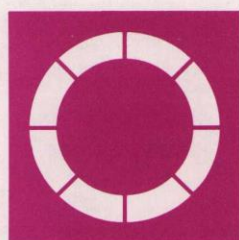
CHRISTIAN FELLOWSHIP. Thursday, 17 Nov, 12.30 p.m. P.L.A. Conf. Rm, R.12. Continuation of Bible Study, John 14. All are welcome.

Rutherford Laboratory

11.11.66.

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

46/66
21 Nov 66



Rutherford Laboratory Bulletin

General News

WINDFALL The Recreational Society has received a very nice windfall in the form of a cheque for £50 which has been donated by Granada Television Ltd, as a token of appreciation for all the help they received from members of the Laboratory during the recent visit of their film unit.

ANY OFFERS? Due to the completion of an experiment in the High Voltage area, R.25 Heavy Laboratory, a large vacuum tank 10' x 3' x 3' with associated pumping equipment will become available shortly. Anyone requiring further details should contact Dr. W.A. Smith, Ext 6600/6260 or F. Harden, Ext 6114.

CONFERENCES The Institute of Physics and the Physical Society have arranged the following conferences to be held in the first half of 1967:

4-7 Jan :	"4th Annual Solid State Physics Conference", at Manchester
23-26 Jan :	"Acoustic Noise and its Control", at London
15-16 Feb :	"Recent Developments in the Theory, Technique and Application of Electron Probe Microanalysis", at London
30-31 March :	"Transport Properties of Superconductors", at Canterbury
3-5 April :	"Thin Films", at Nottingham
5-7 April :	"Spark Discharges", at Liverpool
12-13 April :	"Point Defects in Metals", at Reading
12-14 April :	"The Teaching of Mathematics in the Training of Physicists", at Exeter
13-14 April :	"Crystalline Materials of Biological Origin", at Oxford
17-19 April :	"Elementary Particles", at London
17-20 April :	"Physics Exhibition", at London
8-10 May :	"Static Electrification", at London
7-9 June :	"1st Physics in Industry Conference", at Harrogate

Additions to the above list, also alterations of titles, dates etc., will be given in the Bulletin when known. Further details from H.F. Norris Ext 484.

VISITORS A party of 40 members of the Westfield College Physical Society will visit the Laboratory on Saturday, 26 Nov.

OVERSEAS VISIT. The Director, to CERN, 24-25 Nov, to attend Steering Committee to study establishment of a European Physical Society.

DECEMBER CONFERENCES The following selection of conferences to be held in December may be of interest:

5-7 Dec :	"Electrical and Magnetic Ceramics", at London
5-8 Dec :	"International Conference on Polarized Targets and Ion Sources", (by invitation), at Saclay, France.
16 Dec :	"Meeting on Metallurgical Aspects of Superconductors", at London

COMPUTER NEWS The new IBM System 360/75 Computer arrived on site this week and is now being installed.

Machine Schedules

NIMROD Period 2 - Cycle 9 (22.11.66. - 13.12.66.)

- Machine Physics
- High Energy Physics

Team	Beam	Experiment	
Imperial Coll/RHEL	ϕ 1	A Study of the $\phi \rightarrow e^+ + e^-$ decay	Checking
RHEL/Oxford U.	K7	K ⁺ p polarization measurements	Data
Hydrogen Bubble Chamber Collaboration	K1	K ⁺ p interactions	Data
AERE/QMC	π^+ 4	A study of $\Sigma\beta$ decay	Setting up
P.L.A.			
Date	Team	Experiment	
21-24 Nov	RHEL/ QMC	Polarization in the Scattering of Protons by Cr ⁵³ and Cr ⁵⁴	
25 Nov		Maintenance	
25 Nov - 1 Dec	Manchester U.	Proton Polarization Measurements from Li ⁶ and Li ⁷	

Internal Events

Mon, 21 Nov, 11.15 a.m.	Nimrod	Dr. A. Martin	Analyticity from Field Theory and Unitarity
Lecture Theatre	Lecture Series	(CERN)	

External Events

Mon, 21 Nov, 5 p.m.	Phys Dept.	Dr. R. Berman	The Effect of Isotopes on Heat Conduction
Univ. of Reading	Colloq.	(Oxford)	
Mon, 21 Nov, 4.45 p.m.	Physics	Prof. S.B. Woods (Univ.	Some Electron Tunnelling Experiments in
Univ. of Bristol	Colloq.	of Alberta & Univ. of Bristol)	Superconductors
Mon, 21 Nov, 6 p.m.	IEETE	J.S. Forrest	The Future of Electricity Supply
2 Savoy Place, London	Lecture	(Director CERN)	
Tues, 22 Nov, 2.30 p.m.	Nuclear Phys.	Dr. H. Allan	Cosmic Ray Astronomy
21 Banbury Rd, Oxford	Seminar	(Imp. College)	
Thurs, 24 Nov, 4.15 p.m.	Theor Phys	Dr. J.G. Taylor	Off-Mass-Shell Methods for Two-and Three-
Clarendon Lab, Oxford.	Seminar		Body Scattering
Fri, 25 Nov, 4.15 p.m.	Colloq.	Prof. M.G. Lighthill	Dynamics of Rotating Fluids
Clarendon Lab, Oxford		(Imp. College)	
Mon, 21 Nov, 6.15 p.m.	Inst. of	Prof. S. Vajda	Mathematical Methods of Operational Research
Univ. of Bath	Maths	(Birmingham)	

The following lectures etc, will be given at the IEE, Savoy Place, London during the current week:

Mon, 21 Nov, 5.30 p.m. : "Theory and Applications of Broad-Band Matching", by R. Levy
Tues, 22 Nov, 9.30 a.m. : Colloquium on "Sound on Film"
Wed, 23 Nov, 6 p.m. : "Electronically Assisted Acoustics in Concert Halls," by J. Moir
Thurs, 24 Nov, 5.30 p.m. : "Infra-Red Devices-Propagation, Generation and Reception", by G. Phillips
Fri, 25 Nov, 5.20 p.m. : "The History of X-Ray Technology", by F.L. Veale

EVENTS AT AERE

Tues, 22 Nov, 2 p.m. Conf. Rm, Bldg 8.9	Theor Physics Div. Seminar	Dr. Gilliam Murray (Oxford)	Low Energy Spin Waves and Critical Concentrations for Impure Heisenberg Ferromagnets
Thurs, 24 Nov, 2 p.m. Conf. Rm, Bldg 8.9	Joint Applied Maths Grp Seminar	Dr. J. Chambers (Bell Telephone)	Computer Manipulation of Symmetric Polynomials and some Generalizations

Social News

RECORD SOCIETY 12.30 p.m. Tuesday, 22 November, Lecture Theatre.

A stereo recording of "The New Christy Minstrels", in a selection of American Folk Music.

This comparatively new group is carrying on the tradition of the 19th century minstrels but without the blackface. The original group was formed in 1842 by Edwin P. Christy as the Virginia Minstrels which name was subsequently changed to the Christy Minstrels. Christy had no women-folk in his group, his present-day followers have two. Some of the music has changed too, but there is still the warm earthy flavour in the "folk music" of today.

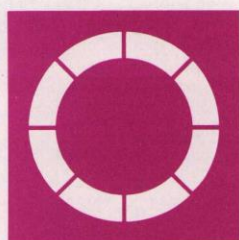
CHRISTIAN FELLOWSHIP Thursday, 24 Nov, 12.30 p.m. PLA Conf. Rm, R.12. Continuation of Bible Study on St. Johns Gospel, end of Ch. 14, led by Robin Elliott, Applied Physics Division. All are welcome.

Date for your Diary: 30 Nov - 10 Dec, International Caravan Exhibition, at Olympia.

Rutherford Laboratory
18.11.66.

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

No.47/66
28 Nov 66.



Rutherford Laboratory Bulletin

General News

VISITORS A party of 20 students from the Didcot Girls Grammar School will visit the Laboratory on Wednesday, 30 November.

MISSING EQUIPMENT The following item of equipment has been reported missing from Lab. 2, Building R.25:

Avometer, Model 8. Ser. No. 3892-364.

Anyone with information on the present whereabouts of this instrument is asked to contact P. Beckett, Building R.25, Ext 252/6137.

Stellaphone Tape Recorder Type ST 458

Anyone with information on this item is asked to contact F. Telling, R.20 Ext 6285.

SYMPOSIA. The University of Southampton are holding a series of one-day symposia on various aspects of industrial and engineering applications of Cryogenics, with speakers from industrial and government research establishments. These symposia will be held on Fridays of the Spring Term, 1967, from 20 January to 17 March and will normally start at 10.30a.m. Further details of the programme from H.F. Norris Ext 484.

RADIATION PROTECTION NOTICE. Films to be changed, Monday, 28 November. $\beta\gamma$ and fast neutron films, Colour Strip - Red, Period - 13. Please change film promptly.

Machine Schedules

NIMROD Period 2 - Cycle 9 (22.11.66.-13.12.66.)

Machine Physics; High Energy Physics (β^+ , K7, K1 and π^+)

Full details of Cycle 9 were given in Bulletin No. 46/66.

P.L.A.

Date	Team	Experiment
28 Nov - 1 Dec	Manchester U.	Proton Polarization Measurements from Li^6 and Li^7
2-9 Dec	RHEL & QMC 1	(p-He ⁴) Polarization Measurements

Internal Events

Mon, 28 Nov, 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. H.M. Chun (CERN)	High Energy Production Processes
Wed, 30 Nov, 11 a.m. R.1 Conf. Rm.	High Energy Phys. Discussion Group	Dr. G. Shaw, Dr. C. Michael	Recent K ⁺ Phase Shift Analysis Low Energy KN Analysis.
Fri, 2 Dec, 11 a.m. R.1 Conf. Rm.	High Energy Phys. Discussion Group	Prof. H. Pierre Noyes (SLAC)	Can we Solve the 3 Nucleon Problem from the 2 Nucleon Systems

External Events

Mon, 28 Nov, 4.45 p.m. Univ. of Bristol	Physics Colloq.	Prof. R.G. Chambers (Univ. of Bristol)	Size Effects in Metals
Tues, 29 Nov, 2.30 p.m. 21 Banbury Rd, Oxford.	Nuclear Phys. Seminar	Dr. J. Domingo (Oxford)	Mobility of Negative Ions Along Vortex Lines in Liquid He.
Wed, 30 Nov, 2.15 p.m. Imp. Coll. London	High Energy Nuclear Phys. Sp. Special Colloq.	Prof. B.P. Gregory (Director-General CERN)	High Energy Particle Physics at CERN.
Wed, 30 Nov, 3 p.m. Cavendish Lab. Cambridge	HEP Grp Seminar	Dr. E. Leader	Conspiracy and its Evasion - A Property of Regge Poles
Thurs, 1 Dec, 2.30 p.m. Clarendon Lab, Oxford	Colloq.	Dr. C.P. Flynn (Met. Dept. Cambridge)	Magnetic Impurities in Simple Metals.
Fri, 2 Dec, 4.15 p.m. Clarendon Lab, Oxford.	Colloq.	Prof. C.D. Jeffries (Univ. of California)	Theory and Operation of Proton Spin Refrigerators

The following lectures etc, will be given at the IEE, Savoy Place, London during the current week.

Mon, 28 Nov, 5.30 p.m.	"Elementary Particles and Resonances", by F.F. Heymann
Mon, 28 Nov, 2.30 p.m.	Colloquium on, "The Use of Electromagnetic Waves in Distance Measuring".
Tues, 29 Nov, 5.30 p.m.	"Recent Developments in Hot-Cathode Hydrogen-Filled Valves", by K.G. Cook.
Wed, 30 Nov, 5.30 p.m.	"Transfer-Function Measuring Instruments", by F. Jones and J. Kirby
Wed, 30 Nov, 5.30 p.m.	Various Papers on the Design of H.V. Insulators etc.
Fri, 2 Dec, 5.30 p.m.	"Testing and Approval of Electrical Appliances", by R. Harvey.

EVENT AT AERE

Tues, 29 Nov, 2 p.m. Conf. Rm Bldg 8.9	Theor. Phys. Div. Seminar	Prof. E.P. Wohlfarth (Imp. Coll.)	Itinerant Electrons and Spin Waves in Ferromagnetic Metals.
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EVENT AT CULHAM

Thurs, 1 Dec, 2 p.m. Conf. Rm Bldg E.6	Joint Applied Maths Group	Dr. G. Strang (MIT & Culham)	The Minimal Condition Number of a Matrix
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Social News

RECORD SOCIETY 12.30 p.m. Tuesday, 29 November, Lecture Theatre.

Gilbert & Sullivan, "The Gondoliers", end of Act 1, and Act 2. by the D'Oyle Carte Opera Company. Light opera at its very best and much too well known for any but the briefest of comments. The Gondoliers, is probably the most popular of all the Gilbert & Sullivan works. In the recording to be played, Martyn Green takes the part of the Duke of Plaza-Toro. His performance alone is sufficient to banish all thoughts of the pay freeze, fog, snow and ice, at least for three-quarters of an hour.

DATE FOR YOUR DIARY: "International Caravan Exhibition", at Olympia, London, 30 Nov - 10 Dec.

FILM SHOW 12.35 p.m. Friday, 2 December, Lecture Theatre.

"On Books and Sloths", a 33 minute Science & Faith film. The programme has been arranged by the RHEL Christian Fellowship Group and all are welcome.