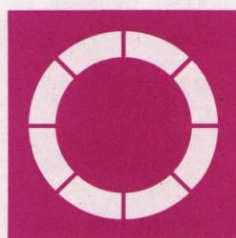


45/67
4 Dec 67



Rutherford Laboratory Bulletin

General News

HARWELL BULLETIN EXTRACTS. The following announcements appear in the current issue of the Harwell Bulletin:-

Outmuster Traffic Regulations. There is an increasing tendency for a minority of car drivers to contravene the site road safety regulations and the rules which govern outmuster procedure. In particular, there has been an increase in the reported cases of speeding along the DIDO Road and of motorists seeking access to the A34 at the Horse and Jockey by contravening the one-way restriction at Downside or using the roads through the housing estate. Drivers who persist in such contraventions may be excluded from bringing their cars on to the site.

Foot and Mouth Disease Precautions. The Medical Research Council Radiobiological Research Unit is anxious to minimise the possibility of infection of their experimental animals by the Foot and Mouth virus. Pedestrians and vehicles should avoid using the turning off Becquerel Avenue to the south of Bldg. 383 as far as possible. Footballers, golfers and walkers are asked not to use the adjoining fields until the epidemic is over.

RADIATION PROTECTION NOTICE. Period 13 commenced Monday, 27 November. Colour Strip - GREY for and fast neutron films. Please ensure that you are wearing the correct films and all old films promptly.

MISSING EQUIPMENT. Approximately 20 photomultiplier tubes, type 54. AVP, despatched during 1966 to Care and Custody stores cannot now be traced. Will anyone with information as to the present whereabouts of these tubes and their associated bases, please contact Miss. M. Owen, Bldg. R1. Ext. 443.

VISITORS. Ten students of St. Georges College, Weybridge, will visit the Laboratory on Wednesday, 6 December.

LOST. A Schaeffer black fountain pen was lost on Monday, 20 November. Anyone finding this pen is asked to contact Dr. R. C. Hanna, Bldg. R1, Ext. 436.

EXTERNAL COURSES ON VACUUM TECHNOLOGY 1968. Details have been received from Edwards High Vacuum Ltd, Crawley Sussex of their programme of training courses for 1968. The courses cover all aspects of basic vacuum practice and are mainly of one week's duration. Anyone wishing to attend one of these courses should contact Mr. E.J.D. Newbold, R20, Ext. 585 for further details. Early application is necessary as these courses are always oversubscribed.

EXTERNAL COURSE ON COMPUTERS IN BUSINESS AND GENERAL STUDIES. The South Berkshire College of Further Education has arranged a short course on computers and their usage on seven Wednesdays commencing 24 January 1968 at 7 p.m. The course is aimed at accountants, administrators, architects, surveyors, technicians and teachers as an introduction to the use of a computer in these fields of interest. Further details may be obtained from Mr. E.J.D. Newbold, R.20, Ext. 585.

OVERSEAS VISIT. Mr. J.B. Mellor, to CERN, 4-6 Dec, for discussions on administrative matters.

Machine Schedules

NIMROD Cycle 10 (1.12.67. - 22.12.67.)

- (a) X2 commissioning.
- (b) X1/X2 joint operation investigations.
- (c) π^+ , π^- , K8, K9, K10S, K12, K13 and K14 - setting up

P.L.A.

Date	Team	Experiment
3 - 4 Dec.		Nuclear Physics Tests.
5 Dec.		Detector Tests.
6 - 13 Dec.	Kings' Coll. London	Elastic and Inelastic Scattering from Ar^{40} at 30 and 50 MeV.

Internal Events

Mon, 4 Dec, 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. C. Chin (CERN)	Validity of the Regge and Resonance Interference Model in πN Scattering
Wed, 6 Dec, 11. a.m. Lecture Theatre	Special Lecture	Dr. D.R.O. Morrison (CERN)	Review of Tomeron and Meson Exchange Reactions.
Wed, 6 Dec, 12.40 p.m. Thurs, 7 Dec., 1.15 p.m. Lecture Theatre	Films		"Exploring Ancient Cities" - 16 mins, colour "The Dead Sea Scrolls" - 16 mins, colour.

"Exploring Ancient Cities", relates the findings of modern Biblical archaeology to the places, peoples and events of the Bible. The activities of the modern archaeologist at work are shown on location with a crew digging in the ruins of ancient Dothan. The second film, "The Dead Sea Scrolls" shows the sites when these famous relics were discovered. Amongst the many interesting scenes are extreme close up shots of the actual scrolls themselves.

Mon, 11 Dec. 11.15 a.m. Lecture Theatre.	Nimrod Lecture Series	Dr. R.N. Brown	A measurement of the Ke^2 Branching Ratio.
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The next Lecture in the Nimrod Series will be on 8 January 1968.

External Events

Tues. 5 Dec., 8.30 p.m. Keble Rd, Oxford.	Nuclear Physics Seminar	Dr. I. Towner (Oxford)	Nuclear Structure Information Obtainable from Two Nuclear Transfer Reactions.
Wed, 6 Dec. 2.30 p.m. Royal Soc. London.	London Seminar on H.E.P.	Dr. C. Chin (CERN)	The Validity of the Regge Pole - Resonance Interference Model.
Wed, 6 Dec. 3 p.m. Cavendish Lab. Cambridge	H.E.P. Seminar	A.A. Carter, Esq.	The K^+ - Nuclear System.
Wed, 6 Dec. 4.45 p.m. Royal Fort, Bristol	Physics and Geophysics College.	Dr. J.W. Steeds, (U. of Bristol)	Anisotropic Elasticity in Transmission Electronic Microscopy.
Wed, 6 Dec. 8 p.m. Eng. Labs. Park Road, Oxford.	I. Mech. E. Informal Lecture	G.K. Rose, Esq. FRCS.	The Engineer and the Surgeon.
Thurs, 7 Dec. 4.15 p.m. Clarendon Lab. Oxford.	Theor. Phys. Seminar	Dr. V.L. Ginzburg (Moscow & Cambridge)	Some Speculations on Superfluidity and Superconductivity.

Thurs, 7 Dec., 8.30 p.m.
21 Banbury Rd, Oxford.

Elementary Particle
Phys. Seminar

Dr. N Byers
(Oxford)

Photoproduction of Mesons in the Forward
Direction,
(Mainly π^+ , π^0 and K^+)

EVENTS AT AERE.

Tues, 5 Dec. 2 p.m.
Conf. Rm. B. 89.

Theor. Phys. Div.
Seminar.

Dr. J.K. Perring

The Nucleon - Nucleon Interaction

Thurs. 7 Dec. 3.30 p.m.
Conf. Rm. H.8.

Nuclear Phys. Div.
College.

Dr. T.T. Thwaites

Radioactive Alpha Capture in Ne^{20} ,
 Ar^{36} and Ar^{38}

Social News

FILM SHOW. See "Internal Events" - for details of this weeks films.

CHRISTIAN FELLOWSHIP 12.30 p.m., Friday 8 December, Lecture Theatre. The Christian Fellowship are presenting a 30 minute colour film entitled, "The Jerome Hines Story". Jerome Hines is the first American singer in four decades to win International acclaim in the great bass roles at the famous Opera Houses of the world. In this film Jerome Hines tells his own story of his conversion to the Christian faith and it is interspersed with his singing excerpts from "The Damnation of Faust", "The Lords' Prayer" and "How Great Thou Art". The attention of members is drawn to the films being shown on Wednesday and Thursday.

RECORD SOCIETY. 12.30 p.m., Tuesday, 5 Dec., Lecture Theatre.

"The Sound That Swung the Thirties" - Venute, Lang, Rollini, also featuring Benny Goodman, Tommy and Jimmy Dorsey and Bud Freeman.

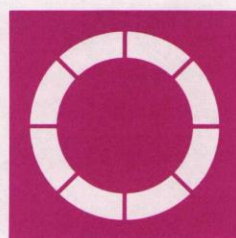
Faced with three records produced by Bob Hopgood of the Atlas Lab. and the problem of choosing which one to play i.e. Louis Armstrong, Muggsy Spanier or Joe Venuti, the last name topped the scales owing to the infrequent opportunity to hear his kind of jazz. To the younger generation the names of Joe Venuti (violin), Eddie Lang (guitar) and Adrian Rollini (bass-sax, clarinet, vibraphone etc.) may be unknown and to others forgotten. Here then is an opportunity to hear a rather unique form of "real" traditional jazz.

H. F. Norris, Ext. 484

Scientific Administration Group,
Building R.20.

Rutherford Laboratory.
1.12.67.

46/67
11 Dec 67



Rutherford Laboratory Bulletin

General News

RADIATION PROTECTION NOTICE. It is Period 13, colour strip GREY for $\beta\gamma$ and fast neutron films. Please check your film and be sure that all old ones are returned.

MISSING EQUIPMENT. Laboratory made item borrowed from Lab. 2.12, R.25 (T. Harper, J.T. Hyman) about 4 - 5 months ago - an "Analogue to Digital Converter" Unit, 5 $\frac{1}{2}$ " rack mounting. Unit is urgently required by NIMROD M.P. Will borrower please contact T. Harper, Bldg. R.25, Ext. 6116.

MISSING CATALOGUE. Will anyone who knows the whereabouts of the following catalogue, missing from the Catalogue Library, R.1 Link, please contact S.E. Gutteridge, Ext. 339:-

A.C. Delco equipment manual, reference No. D12.

VISITORS. Eleven members of the AERE Course "Physics for Engineers" will visit the Laboratory during the afternoon of Thursday, 14th December.

OVERSEAS VISITS. Dr. G.H. Stafford to CERN 15 December for meeting of Organising Committee 1968 Vienna Conference on High Energy Physics.

Mr. J.H. Swain to CERN 11 - 13 December to discuss Bubble Chamber expansion systems.

Mr. A. Carne and Mr. J.M. Dickson to the linear accelerator at Swierk, near Warsaw, 11 - 16 December, for discussions.

Machine Schedules

NIMROD Cycle 10 (1.12 - 22.12.67)

- (a) X2 commissioning.
- (b) X1/X2 joint operation investigations.
- (c) n_4 , n_5 , K8, K9, K10S, K12, K13 and K14 - setting up.

P.L.A.

Date	Team	Experiment
11 - 14 Dec.	King's College, London	Elastic and Inelastic Scattering from Ar^{40} at 30 and 50 MeV
15 Dec.	Maintenance	
16 - 21 Dec.	Oxford University	(p,d) and (p,t) Reactions.

Internal Events

Mon, 11 Dec., 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. R.N. Brown	A measurement of the Ke^2 Branching Ratio.
(Note: There will be no further lecture in this series until 8 January, 1968).			
Wed, 13 Dec., 11 a.m., Conf.Rm., R.1.	HEP Discussion Group	Dr. J. Ranft	Thermodynamical Model of Multiparticle Production.
Wed, 13 Dec., 12.40 p.m.	Film	"At your Request". 15 minute film about the National Lending Library for Science and Technology, Boston Spa, Yorks. Note: The services of this library are available to the Rutherford Laboratory, but applications should preferably be routed via our own Library.	
Thurs, 14 Dec., 1.15 p.m., Lecture Theatre			

MOBILE EXHIBITION. A demonstration vehicle from Keithley Instruments Ltd. will be stationed in the layby off the northern access road to Building R.20 from 10 a.m. to 4 p.m., Wednesday, 13 Dec. Display will include transistorised electrometers. Further details may be obtained from Mr. B.E. Kingdon, Building R.20, Ext. 6297.

INFORMAL THEORETICAL PHYSICS GATHERING. There will be an informal gathering of theoretical physicists interested in Elementary Particle Physics: meetings will be in the Lecture Theatre - timetable as follows:-

Monday, 18 Dec.	11.15 a.m. - 6 p.m.
Tuesday, 19 Dec.	9.30 a.m. - 6 p.m.
Wednesday, 20 Dec.	9.30 a.m. - end (about 4 p.m.).

A number of review talks will be given on topics of current interest and some short reports on work recently completed. Topics will have some fairly direct connection with questions of current interest to experimenters, whose attendance it is hoped will be encouraged by this linkage. A detailed programme will be announced a few days before the meeting.

External Events

Tues, 12 Dec., 7.30 p.m., Univ. of Reading	I.E.R.E. Branch Meeting	E.F. Good and F.E.J. Girling (R.R.E.)	Active Filters
Wed, 13 Dec., 8.00 p.m., Univ. of Oxford	There will be a discussion on experiments related to time reversal invariance. Principal speakers: Dr. P.G.H. Sandars, Dr. N.W. Tanner and Dr. P.B. Jones. Attendance limited. For details apply to Mr. B.E. Kingdon, Bldg. R.20, Ext. 6297.		
EVENTS AT AERE			
Tues, 12 Dec., 2.00 p.m., Conf.Rm., B.8.9	Theor.Phys.Div. Seminar	Prof. C.A. Coulson (Univ. of Oxford)	Hypervirial relations and the wave equation.
Thurs, 14 Dec., 3.30 p.m., Conf.Rm., H.8	Nucl.Phys.Div. Colloq.	Dr. J.O. Newton	Nuclear spectroscopy experiments with (x,n) reactions.
STOP PRESS.			
Thurs, 14 Dec., 8.30 p.m., Nucl.Phys.Lect.Rm., 21 Banbury Rd., Oxford.	Seminar in Elementary Particle Physics	Dr. T. Quirk (Oxford Univ.)	The $K^+ e^3$ Decay Process.

Social News

FILM SHOW. Please see "Internal Events".

RECORD SOCIETY. 12.30 p.m., Tuesday, 12 Dec., Lecture Theatre. Organ Music by J.S. Bach.

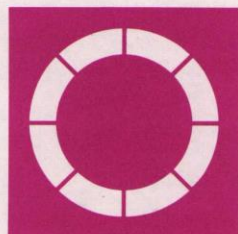
This is a stereo recording of five of Bach's Chorale Preludes, including the seasonable "In dulci jubilo" and the superb Prelude and Fugue in F minor. The organ of University College, Oxford, is played by John Webster (organist of the University Church of St. Mary the Virgin, Oxford).

CHRISTMAS CAROLS. 12.35 - 13.05 p.m., Friday, 15 Dec., Lecture Theatre: The Christian Fellowship invites all to a Christmas Carol Sing-Song, led by the Rev. David Mills of Tilehurst Congregational Church.

R.C. Pepperell, Ext. 6287
Scientific Admin. Group,
Building R.20.

Rutherford Laboratory
8.12.67.

No 47/67
18 Dec 67



Rutherford Laboratory Bulletin

General News

SCIENTIFIC ADMIN. NOTICE. The next issue of the Bulletin will be published on Thursday, 21 December and will cover two weeks. Copy for this issue should be sent to H.F. Norris, Bldg. R.20, not later than 9 a.m. Wednesday, 20 December.

SUGGESTION AWARDS. At the meeting of the Suggestions Awards Committee on Monday, 4 December, the following awards were made:-

£70 (final) to S.J. Axford - Modifications to wire feed on superconducting strip rolling mill.
£3 to A. Smith - Inclusion of isolation valves in the π^5 constant vapour rig.
£2 to A. Richards - Stops to be fitted to the 1C target removal mechanism trolley.
£1. 10. (Joint) to A. Richards and S. Watson - Lifting beams for new 1C target mechanism.

Encouragement awards were made to A. Richards, A. Hudson, H.E. Clark, A. Smith and J.G. Rankin.

RADIATION PROTECTION NOTICE. It is Period 13 - colour strip GREY for $\beta\gamma$ and fast neutron films.

The next film change will be on 1 January 1968.

Machine Schedules

NIMROD Cycle 10 (1.12.67 - 22.12.67)

- (a) X2 commissioning.
- (b) X1/X2 joint operation investigations.
- (c) π^4 , π^5 , K8, K9, K10S, K12, K13 and K14 - setting up.

P.L.A.

<u>Date</u>	<u>Team</u>	<u>Experiment</u>
16 - 21 Dec.	Oxford Univ.	(p,d) and (p,t) Reactions
22 Dec.	Radiation Protection Group.	

The P.L.A. will be shut down from 23 - 26 December inclusive.

Internal Events

INFORMAL THEORETICAL PHYSICS GATHERING. As announced in last week's Bulletin, there will be an informal gathering of theoretical physicists interested in Elementary Particle Physics, in the Lecture Theatre from 18 - 20 December inclusive. Timetable as follows:-

Monday, 18 Dec. 11.15 a.m. - 6 p.m.
Tuesday, 19 Dec. 9.30 a.m. - 6 p.m.
Wednesday, 20 Dec. 9.30 a.m. - end (about 4 p.m.)

A number of review talks will be given on topics of current interest and some short reports on work recently completed. Topics will have some fairly direct connection with questions of current interest to experimenters, whose attendance it is hoped will be encouraged by this linkage. Details of the programme were not finalised at the time of writing this item, but it will be available by Friday, 15 December. However, it is known that amongst a number of speakers is one who has been invited from CERN, Dr. J.S. Bell, whose talk on "CP Violation" will be given at 9.30 a.m. on Tuesday morning, 19 Dec.

Wed, 20 Dec. 1.15 p.m.	Film	The History of Motor Racing.
Thurs, 21 Dec. 12.40 p.m.		Part 4 - The Titans (1935 - 1939)
Lecture Theatre.		(A 33 min. film, part colour)

(Please note change of times for this week only)

In the first part of "The Titans" shown earlier this autumn the German Mercedes and Auto Union teams were beginning to threaten the supremacy of the Alfias and Maseratis. From 1935 onward the German cars began to dominate the racing scene more and more with Mercedes becoming virtually unbeatable. It is interesting to recall that a number of circuit records set up by these very powerful machines, which if memory is correct, produced at the peak of their development some 600 brake horse power, have been broken repeatedly since the war by 1½ litre cars and in some cases by 1 litre cars. Such is the astonishing developments in suspension, steering and brakes that has taken place in recent years that less than a quarter of the power developed by those legendary pre-war cars has been sufficient to enable these records to be broken.

External Events

EVENT AT AERE.

Tues, 19 Dec. 2 p.m., Conf.Rm., B.8.9	Theor.Phys. Div.Seminar	Dr. L. Colquitt (Imp. Coll.)	Ferromagnetic Resonance in Metals.
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Social News

FILM SHOW. See Internal Events for details of this weeks film show and please note change of times.

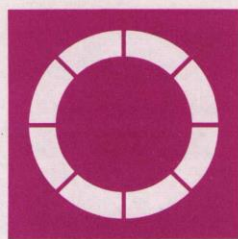
ABINGDON CHRISTMAS FESTIVAL. Once again you are invited to the Market Square, Abingdon, on Thursday, 21 December, 6.15 - 7.15 p.m. to sing your favourite carols and see the whole Christmas story enacted. Music by the Abingdon Borough Band. (If wet, in the Abbey Hall).

RECORD SOCIETY. 1.15 p.m., Tuesday, 19 Dec, Lecture Theatre.

"Ceremony of Carols" by Benjamin Britten with the composer conducting the Copenhagen Boys Choir.

Please note change of time for this week only.

No 48/67
25 Dec 67



Rutherford Laboratory

Bulletin

General News

NIMROD EXPERIMENTAL HALL 3 PROGRESSES. Nearly ten months ago, on 28 February, the Director, Dr. T.G. Pickavance, carried out the ceremony of turning the first 'lump of earth' on the site of the new Hall 3. Since that time a great deal of work has been carried out, although to the casual observer this has not been very apparent. The two service tunnels which have a cross-section of 10 ft. x 10 ft. and run the full length of the Hall are almost completed. A lot of concreting has been done, some sections of the structural floor slab have been laid and a large amount of other preparatory work has been completed or is well under way.

Recently, however, a major change has taken place with the erection of several of the massive steel columns which are nearly 60 ft. high. These few columns are sufficient to enable one to visualise the size of the new hall which is to be 300 ft. long, 150 ft. wide and 65 ft. high. Also one can see several of the beams which will support the 30 ton crane which also carries a $7\frac{1}{2}$ ton auxiliary hook. The crane will be able to traverse the full width and length of the hall and will have a lift range from the bottom of the service tunnels to 35 ft. above the hall floor level.

Other aspects of the work are going well; the design work has been completed, major contracts placed and most important of all, progress on the building is generally up to schedule and the completion date is expected to be achieved.

S.R.C. HOUSE JOURNAL. The first issue of 'QUEST' is expected some time in January, 1968.

NIMROD "BEAMS" AGAIN. A second Nimrod External Proton Beam, X2, has been brought into operation. Measured intensity is in the region of 2.5×10^{11} protons, corresponding to an extraction efficiency of about 35%. These figures are the highest yet recorded in a Nimrod Extracted Proton Beam.

Spot size at the external target is better than predicted; full image widths of 4.3 mm (Horizontal) x 4.6 mm (Vertical) have been measured, using a 0.1 mm diameter Secondary Emitting Wire Scanner.

X2 serves the counter beams K12, K13, K14 and K14a, as well as the beam for the Heavy Liquid Bubble Chamber, K11. It has proved possible to carry out useful preliminary tuning on the counter beams during X2 commissioning.

As an extraction system allowing rapid switching between X1 and X2 is not yet ready, two alternative schemes have been examined. The first of these involves sending a full-energy scattered proton beam down X1 on fast spill, before extracting the remainder down X2. The other technique is to extract at 5 GeV on fast spill down X1, with X2 settings, before extracting down X2. Both techniques have been proven in operation and present studies are concerned with determining the resulting secondary particle fluxes for K9 users.

ATLAS LAB. NEWS - ON LINE LINK TO CAMBRIDGE. The on-line link to the Cambridge ATLAS (TITAN) is now working. Thanks to the excellent co-operation by the G.P.O. and the staff at Cambridge, the first successful transmission took place on Tuesday, 5 December. The main purpose of the link is to enable the programmers preparing the Sigma 2 software to gain experience in the use of an on-line system.

ICEC 2. Further information is now to hand on the Second International Cryogenics Conference to be held at Brighton, 7-10 May, 1968. The date for submission of papers to this Conference has now been extended to 31 December, 1967.

EXTERNAL COURSES. The Reading College of Technology have announced a number of short courses arranged by the Department of Electrical and Electronic Engineering:-

"Tape Recording" - six lectures, on Mondays, 1900 - 21.15 hrs., from 22 January to 26 February inclusive.

"Transistor Practical Course" - on Tuesdays, 1900 - 21.15 hrs., commencing 16 January.

"Servos and Control Systems" - eight lectures, on Fridays, 1900 - 21.15 hrs., from 26 January to 15 March inclusive.

"Semiconductor Circuitry" - thirteen lectures, on Mondays, 1900 - 21.15 hrs., from 8 January to 1 April inclusive (details given in Bulletin No. 43/67).

"Electronic Techniques for Mechanical Engineers" - six lectures, on Tuesdays, 1900 - 21.15 hrs., 23 January to 27 February inclusive.

Further details of the above courses may be obtained from Mr. E.J.D. Newbold; R.20, Ext. 585.

SCANNING AND MEASURING LABORATORY, R.1 - VISITORS. Scanning and measuring calls for a high degree of concentration. Recently there has been an increase in the number of casual visitors whose presence inevitably distracts the staff.

Anyone wishing to take visitors over the scanning and measuring laboratory is asked to telephone Mrs. Cheney (Ext. 6251/6629) or in her absence, Mrs. Stuart (Ext. 6632/6629) to arrange a suitable time for a visit. If required they can arrange for a qualified member of the group staff to explain and comment on the projected bubble chamber pictures.

OVERSEAS VISIT. Prof. W.D. Allen to Tokyo, on 30 December, at the invitation of the Physics Department, University of Tokyo, for discussions on electrostatic generators. Before his return on 26 January he will visit the Bose and Saha Institutes in Calcutta for discussions and lectures.

Machine Schedules

P.L.A.

Date

Team

Experiment

27 - 28 Dec.

Maintenance

29 Dec - 8 Jan.

Manchester U.

Elastic and Inelastic Scattering from Ca and Zr.

NIMROD CYCLE 11 (27.12.67 - 16.1.68) Provisional.

Cycle 10 ends 08.30 Fri. 22 Dec., when machine shuts down until Wed, 27 Dec.

27 - 29 Dec. - Maintenance and Machine Physics.

Team	Beam	Experiment	
AEFE/QMC/RHEL	n4	A study of Σ^- beta decay.	Setting up
Bristol Univ.	n5	n p differential cross-section measurements.	Data
Univ.Coll. London	K8	K \bar{p} elastic scattering studies.	Setting up
Cambridge B/C Group	X1/K9	Hyperon/nucleon interactions.	Data
Oxford Univ.	K10S	Studies of neutral final states in K \bar{p} interactions	Setting up
Birmingham Univ.	X2/K12	Kp elastic scattering	Setting up
RHEL/Cambridge U.	X2/K13	Test of $\Delta S = \Delta Q$ rule	Setting up
RHEL/Westfield Coll.	X2/K14	Decay parameters of Σ^+	Setting up

Internal Events

Wed, 3 Jan, 11 a.m., Conf.Rm., R.1	H.E.P. Disc.Grp.	Dr. G.V. Dass (AEFE) - Polarization Transfer in the Reaction $p + d \rightarrow n + p + p$
		Dr. S.Y. Lo (RHEL) - Current-Field Identity and Rho Universality.
Mon, 8 Jan., 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. R.C. Arnold (Argonne) Recent Work in Regge Poles and Associated Topics.
Tues, 9 Jan, 3 p.m., Lecture Theatre	Special Lecture	It is hoped that Dr. T.B. Novey (Argonne) will talk on "The Argonne Neutrino Experiment" and give a brief summary of the current charge exchange experiment.
Wed, 10 Jan, 3 p.m., Lecture Theatre	Special Lecture	It is hoped that Dr. V. Perez-Mendez (U. of California, Berkeley) will talk on "Magnetostrictive Readouts"
Mon, 15 Jan, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. G. Shaw (RHEL) Internal Symmetries of the Electromagnetic Current: Experimental Tests

Social News

Dates for your Diary. 27 Dec. - 6 Jan., Daily Mail Schoolboys and Girls Exhibition at Olympia, London.

- 3 - 13 Jan. - International Boat Show, at Earls Court, London.
- 3 - 13 Jan. - Model Engineer Exhibition, at Seymour Hall, London.
- 3 - 13 Jan. - Racing Car and Accessories Exhibition, at Old and New Hart.Halls; London.

CHRISTIAN FELLOWSHIP. Fri, 29 Dec., Prayer Meeting.

Friday, 5 Jan. Bible Study on Epiphany, led by Robin Elliott of Nimrod Beams Physics Group:
Both meetings in the P.L.A. Conf.Rm., R.12, at 12.30 p.m.
All are welcome.

RECORD SOCIETY. 12.30 p.m., Tues, 2 Jan., Lecture Theatre.

"Hootenany 'n Hogmanay"

A regular Scots Broth of songs and dances from 'North of the Border'

As this is the last edition to be published in 1967, the Editor would like to thank all those who have helped in the production of the Bulletin during the last year. In particular thanks are due to the various typists, Reproduction Section and the post ladies who weekly have ensured that a copy reaches you each Friday (home viewers; Monday in most other places including CERN). It may be of interest to know that the demand is still rising and 800 copies are now produced weekly.

To all our readers - Merry Christmas and a Happy New Year.

Joyeux Noel, Heureuse Année: Prettig Kerstfeest, Gelukkig Nieuwjaar:

Fröhliche Weihnachten, Ein glückliches Neues Jahr:

Felices Pascuas de Navidad, Próspero Año Nuevo.

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

Rutherford Laboratory.
21.12.67