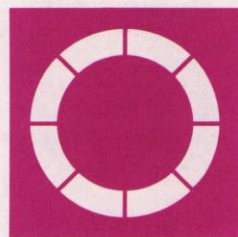


No 41/67  
6 Nov 67



# Rutherford Laboratory Bulletin

## General News

**P.L.A. NEWS.** The annual shutdown of the P.L.A. is from 30 October to 27 November. During this period the work programme will consist of maintenance, installation of a Debuncher, new Low Energy Drift Space equipment and re-flattening of Tank 1.

The principle object of this work is to improve the output energy spectrum of the machine.

**RADIATION PROTECTION NOTICE.** Period 12 commenced Monday 30 October. Colour Strip - BROWN. Please check that you are wearing the correct film and return all old films. The fast neutron film issue will be resumed on 1 Dec. when Nimrod is again operational. All outstanding fast neutron issues must be returned promptly.

**OVERSEAS VISITS.** Dr. J.J. Thresher to CERN, 5 - 7 Nov, to attend the EEC Meeting.  
Dr. G.H. Stafford to CERN, 7 - 8 Nov, to attend the N.P.R.C. Meeting.  
Mr. K.C. Myers to Saclay, 7 - 8 Nov, for discussions on problems of safety.

## Internal Events

Mon, 6 Nov, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. J.C. Sens (CERN)	K <sup>+</sup> p Scattering using a Polarised Hydrogen Target
Tues, 7 Nov., 11 a.m., Lecture Theatre	Special Lecture	Prof. A. Lagarrigue (Orsay)	The Gargamelle Project and the Future of Neutrino Physics
Wed, 8 Nov, 11 a.m., Conf.Rm., R.1	HEP Discussion Group	Dr. J. Ranft	A Double Regge Pole Model for 3 Particle Production and its Comparison with Experiment
Wed, 8 Nov, 12.30 p.m. Thurs, 9 Nov, 1.15 p.m. Lecture Theatre	Film	Nimrod Part 3: How is the Research Done	

The story so far has dealt with the reasons for building large accelerators and how Nimrod was designed and built. With the machine working operational and maintenance procedures have to be learnt. A research programme has to be planned and experiments set up. Dr. Pickavance now tells how these problems were dealt with and Dr. Thresher continues the story with a description of the K7 experiment.

Wed, 8 Nov., 2 p.m., Conf.Rm., R.12	P.L.A. Scheduling Meeting		
Wed, 8 Nov., 10 a.m. - 4 p.m.	Demonstration of the A.E.I. Suitcase Data Logger in R.25 Conf.Rm.		
Mon, 14 Nov, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Prof. E.H. Bellamy (Westfield Coll.)	Experiments at S.L.A.C.

## External Events

Mon, 6 Nov, 3.45 p.m., Queen Mary Coll.	Theor.Phys. Seminar	Prof. M.A. Ruderman (New York Univ. & Imp. Coll.)	White Dwarfs and Elementary Particle Physics
Tues, 7 Nov., 8.30 p.m., 21 Banbury Rd., Oxford	Nuclear Physics Seminar	Dr. B.W. Allardyce (Oxford)	Pions & Complex Nuclei
Wed, 8 Nov., 3 p.m., Cavendish Lab., Cambridge	HEP Seminar	Prof. F.F. Heymann (U.C.L.)	Some Recent Results on Pion-Nucleon Elastic Scattering
Wed, 8 Nov, 4.45 p.m., Royal Fort, Bristol	Physics & Geophysics Colloq.	Prof. F.C. Frank (Univ. of Bristol)	Prospects for Earthquake Predication
Wed, 8 Nov, 7 p.m., Culham Laboratory	I.E.E. District Meeting	Mr. R.G. Millard (C.E.G.B.)	Some Aspects of the Design of Didcot Power Station
Thurs, 9 Nov., 8.30 p.m., 21 Banbury Rd., Oxford	Elementary Particle Phys. Seminar	Dr. K. Crowe	The Pion Form Factor from Pion-Alpha Scattering
Fri, 10 Nov., 4.15 p.m., Clarendon Lab., Oxford	Colloq.	Dr. J.T. Houghton (Dept. of Atmospheric Physics, Oxford)	Satellite Spectroscopy and Long Range Weather Prediction
<b>EVENTS AT AERE</b>			
Tues, 7 Nov., 2 p.m., Conf.Rm., Bldg. 8.9	Theor.Phys. Seminar	Prof. R.E. Peierls (Oxford)	Force of an Ion in an Electron Gas
Thurs, 9 Nov., 3.30 p.m., Conf.Rm., H.8	Nuclear Phys.Div.Colloq.	Dr. R.K. Jolly	Polarisation of Protons Elastically Scattered from Isobaric Analogue Resonances

## Social News

**FILM SHOW.** Please see "Internal Events" for details of this week's film.

**RECORD SOCIETY.** Tues, 7 Nov., 12.30 p.m., Lecture Theatre.

"Selection of Light Music." A stereo tape recording made last month in the Abbey Hall, Abingdon with Laurance James at the console of the Compton Theatre Organ.

Date for your Diary: 8-18 Nov., International Caravan Exhibition, Earls Court, London.

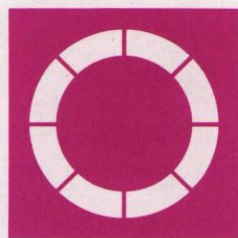
**CHRISTIAN FELLOWSHIP.** 12.30 p.m., Friday, 10 Nov., P.L.A. Conf.Rm., R.12. Talk by the Rev. David Mills, Tilehurst Cong., Reading, on "Is God Dead?". All are welcome.

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

Rutherford Laboratory.  
3.11.67.



No 42/67  
13 Nov 67



# Rutherford Laboratory Bulletin

## General News

**VISITORS.** Thirty members of the Chelsea College Maths & Physical Society will visit the Laboratory on Saturday, 11 November.

Members of the Abingdon Royal Air Force Cadets will visit the Laboratory on Saturday, 11 November.

**FOUND.** A pair of gents gloves were found in R.25 Conf.Rm. on Wed, 8 Nov. after the AEI demonstration. Owner please contact Mrs. T. Walker, Admin. Office, R.25 (a.m.) or R.20 (p.m.).

**EXTERNAL COURSE.** The Slough College of Technology are presenting a special one-day course on Electronic Speed Control of Electric Motors to be held at the Department of Electrical Engineering on Tuesday, 28 Nov commencing at 9.15 a.m. Further details from Mr. E.J.D. Newbold, R.20, Ext. 585.

**MISSING EQUIPMENT.** The following item of equipment has been missing from Lab.2, R.1 for several months:-

Moseley XY Recorder, Model 135/01 Ser.No. 1989, Loan Pool No. 1493.

Will the person who borrowed this item or anyone with information on its present whereabouts please contact Mr. G.J. Homer, Ext. 288.

**OVERSEAS VISIT.** Mr. J.D. Milne and Mr. B.G. Brady to Karlsruhe, Germany and Orsay, France, 12 - 17 Oct, for discussions on the various techniques of lead plating in connection with its use in superconducting microwave devices.

## Internal Events

Mon, 13 Nov., 11.15 a.m.,  
Lecture Theatre

Nimrod Lecture  
Series

Prof. E.H. Bellamy  
(Westfield Coll.)

Experiments at S.L.A.C.

Tues, 14 Nov., 10 a.m.-4 p.m.

Visit of Mobile Demonstration Laboratory of electronic equipment by Messrs. Hewlett-Packard Ltd., adjacent to Building R.20. Details of the equipment to be displayed will be shown on notice boards.

Wed, 15 Nov., 12.40 p.m.

Film

The History of Motor Racing  
Part 3 - The Titans (1930-1934)  
(A 29 min. film)

Thurs, 16 Nov., 1.15 p.m.  
Lecture Theatre

The Titans, indeed, with names such as Nuvolari, Varzi, Campari, Louis Chiron, Caracciola and von Brauchitsch. Buggatti's have a brief period in the limelight, then they are eclipsed by the Alfa-Romeos and Maseratis and towards the end of this period two more makes begin to dominate the motor racing scene, Mercedes and Auto-Union. Famous makes and legendary names should combine to make this an exciting film.

Wed, 15 Nov., 11 a.m.  
Conf.Rm., R.1

H.E.P. Disc.  
Group

Dr. K. Heard -  $\pi$ -p Polarization Results  
Dr. C. Michael - pp Wide Angle Scattering

Mon, 20 Nov., 11.15 a.m.,  
Lecture Theatre

Nimrod Lecture  
Series

Dr. M.L. Stevenson  
(U. of Heidelberg) Rare Decay Modes of Sigma Hyperons

## External Events

Mon, 13 Nov., 5 p.m.,  
Univ. of Reading

Colloq.

Dr. D. Shoeberg  
(Cambridge)

The de Haas-van Alphen Effect

Tues, 14 Nov., 2.30 p.m.,  
21 Banbury Rd., Oxford

Nuclear Phys.  
Seminar

Dr. R. Johnstone  
(U. of Surrey)

Effects of Deuteron D-States in (d,p) and (p,d) Reactions

Thurs, 16 Nov., 2.30 p.m.,  
Clarendon Lab., Oxford

Low Temp. & Solid  
State Phys. Seminar

Dr. I.J. Kirby

Zero Sound and the Acoustic Impedance of Liquid He<sup>3</sup>

Thurs., 16 Nov., 3 p.m.,  
Silver St., Cambridge

HEP Seminar

Dr. A. McKerrell

Kinematic Singularities of Helicity Amplitudes

Thurs, 16 Oct., 4.15 p.m.,  
Clarendon Lab., Oxford

Theor.Phys.Seminar

Dr. P. Schofield  
(A.E.R.E.)

High-frequency Density Fluctuations in Classical Liquids

Thurs, 16 Oct., 5.15 p.m.,  
Imp.Coll., London

Inst. of Maths,  
Lecture

Dr. B. Thwaites

Presidential Address - 1984: Mathematics ↔ Computers?

Thurs, 16 Oct., 8.30 p.m.,  
21 Banbury Rd., Oxford

Elementary Particle  
Phys. Seminar

Prof. S. Bludman

Non-leptonic Weak Interactions

Fri, 17 Oct., 4.15 p.m.,  
Clarendon Lab., Oxford

Colloq.

Dr. K. Mendelsohn  
(Oxford)

Science at the Pyramids

## EVENTS AT AERE.

Tues, 14 Nov., 2 p.m.,  
Conf.Rm., B.8.9

Theor.Phys.Div.  
Seminar

Prof. P.W. Anderson  
(Cavendish & Bell  
Laboratories)

Ground State of a Magnetic Impurity in a Metal

Thurs, 16 Nov., 3.30 p.m.,  
Conf.Rm., H.8

Nucl.Phys.Div..  
Colloq.

Dr. C.F. Clement

The New Butler Stripping Theory

## Social News

**RECORD SOCIETY.** Tuesday, 14 Nov., 12.30 p.m., Lecture Theatre. A Tribute to Sir Malcolm Sargent.

The Record Society is presenting a recording of Sir William Walton's "Belshazzars Feast", a work always closely associated with Sargent. The soloist in this performance is James Milligan with the world famous Huddersfield Choral Society and the Royal Liverpool Philharmonic Orchestra conducted by Sir Malcolm, widely acknowledged as the master of choral conducting.



The text of this dramatic and exciting oratorio is taken from the Book of Daniel, enclosed within verses from Psalm 137 and Psalm 81 and was chosen and arranged by Osbert Sitwell. It tells of the captivity of the exiled Jews in Babylon, a city of great wealth and paganism, how during a great feast a hand appeared writing on a wall "Thou art weighed in the Balance and found wanting" and how Belshazzar, the heathen king of Babylon, in that night was slain. Barbaric, vivid, dramatic, exciting - all these terms can be applied to what is undoubtedly one of the great choral works of the Twentieth Century.

FILM SHOW. See "Internal Events" for details of this week's show.

CHRISTIAN FELLOWSHIP. Please note change of venue for the meeting on Friday, 10 Nov, to the Lecture Theatre - 12.30 p.m.

Friday, 17 Nov., 12.30 p.m., R.1 Conf.Rm. Bible Study. 2 Thess. 2 latter part. All are welcome.

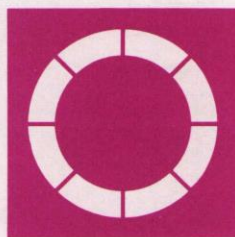
Stop Press. A demonstration of a SOEMTRON 220 Desk Calculator will be given by Office and Electronic Machines Ltd. at 10.45 a.m. on Wednesday, 15th November, in the Conference Room, Bldg. R.25.

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

Rutherford Laboratory.  
10.11.67.



No 43/67  
20 Nov 67



# Rutherford Laboratory Bulletin

## General News

**VISITORS.** Forty members of the University College London Maths and Physical Society will visit the Laboratory on Saturday, 25 November.

**RADIATION PROTECTION NOTICE - FILM BADGE ISSUES.** It is now Period 12. Colour Strip - BROWN for  $\beta\gamma$  films.

Fast neutron films will be issued to NIMROD personnel on Monday, 20 November, to be worn for the remainder of Period 12 and Period 13 (which will end on 1 Jan). Colour Strip - BROWN/SILVER.

P.L.A. staff will receive fast neutron films commencing Period 13. Colour Strip - SILVER.

**EXTERNAL COURSE.** The Reading College of Technology have announced a course on "Semiconductor Circuitry (Discrete and Integrated)". The course is of 13 weeks duration from 8 Jan to 1 April inclusive, all lectures from 1900 - 21.15 hrs. Lecturer - Dr. L.J. Herbst (R.H.E.L.). This course is intended to provide an outline of discrete and integrated circuits. The objective is to give a really up-to-date account of circuit techniques, the final lecture being devoted to a general survey of the most recent developments and future trends. Further details from Mr. E.J.D. Newbold, R.20, Ext. 585.

**CONFERENCES.** The Institute of Physics and the Physical Society have arranged the following conferences during 1968:

- 3 - 6 Jan. "Fifth Annual Solid State Physics Conference" at Manchester.
- 17 - 18 Jan. "Holography - Recent Advances and Applications", at the N.P.L.
- 1 - 3 Apr. "Heavy Particle Collisions" at Belfast.
- 2 - 4 Apr. "Semimetals and Narrow Gap Semiconductors" at Durham.
- 17 - 19 Apr. "Fourth International Vacuum Congress" at Manchester.
- 17 - 19 Apr. "Structure Analysis: Thermal Vibrations, Disorder and Phase Transitions" at York.
- 22 - 24 Apr. "Second Thin Film Conference" at Southampton.
- 8 - 10 May "Low Energy Electron Diffraction" at Harwell.
- 10 - 12 July "Competing Spectrochemical Techniques" at the Univ. of Keele.
- 15 - 18 July "Fourth International Research Symposium on Electrical Contact Phenomena" at Swansea.
- 9 - 12 Sept. "Elementary Particles" at London.
- 11 - 13 Sept. "Physical Aspects of Noise in Electronic Devices" at Nottingham.

**Preliminary Announcement -** The formal inauguration of the European Physical Society will take place during a conference to be held in Florence, Italy, between 23 and 29 Sept. Further details of the conference are expected early in the New Year.

**ICEC 2 -** The Second International Cryogenics Engineering Conference will be held at Brighton, 7 - 10 May, 1968. Fee £14. Abstracts of papers to be submitted should be sent to the Conference Secretary not later than 1 Dec, 1967. Registration deadline - 1 March 1968. Further details from H.F. Norris, R.20, Ext. 484.

**LOST.** A small parcel, between R24 and R25 containing 12 small metal plugs,  $\frac{1}{2}$ " dia. x  $\frac{1}{2}$ " long. The parcel may be endorsed 7320 in black and should be accompanied by a receipt voucher bearing the following references - 7/8707, N 27273 RIQ, A.E. Pyrah. Will anyone knowing the whereabouts of this parcel please notify Mr. H.J. Wright, R1 Stores, Ext 6203.

**CERN NEWS.** During the Family Day on 23 Sept, which attracted 2351 people to CERN, the 60,000th visitor passed through the gates. (News by courtesy of CERN Courier).

**OVERSEAS VISITS.** Dr. L.C.W. Hobbis to CERN, 19 - 22 Nov, for discussions on various aspects of the European 300 GeV project.  
Dr. P.J. Duke to the USA, 20 Nov - 6 Dec, to attend the  $nN$  scattering conference at Irvine, California, and to visit the Berkeley and Stanford Laboratories.  
Dr. W.A. Smith and Mr. K.W. Smith to CERN, 22 - 24 Nov, to discuss current problems in separator design with the CERN separator group.

## Internal Events

Mon, 20 Nov, 11.15 a.m., Lecture Theatre.	Nimrod Lecture Series	Dr. M.L. Stevenson (U. of Heidelberg)	Rare Decay Modes of Sigma Hyperons.
Wed, 22 Nov, 11 a.m., Conf.Rm., R.1	HEP Disc. Grp.	Dr. Gisela Ranft - Double Regge Model: Density Matrix Elements for Single Particle Production. Dr. C. Michael - pp Wide Angle Scattering.	
Wed, 22 Nov, 12.40 Thurs, 23 Nov, 1.15 Lecture Theatre	Film	NIMROD - Part 4: The K7 Experiment.	

In this, the last part, the Director concludes the story of Nimrod and describes some of the apparatus used by the high energy physicists. Spark and bubble chamber techniques are discussed and finally Dr. Pickavance tells how the data is analysed using track analysis measuring machines and computers.

Mon, 27 Nov, 11.15 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. D.K. Aitken (U.C.L.)	The Reaction $\pi^- p \rightarrow \pi^+ \pi^- n$ at Momenta between 3 and 3.5 GeV/c.
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Wed, 29 Nov, 9 a.m. - 4 p.m., Conf.Rm, R.12. Demonstrations and talks by members of the staff of DEC(UK) Ltd. on the FDP-S/S computer. (More details will be given in the next Bulletin).

*Correct in next Bull.*

/OVER ....



## External Events

*New Common Room,  
Kable Road,*

Mon, 20 Nov, 4.15 p.m., Queen Mary Coll., London	Theor.Phys.Seminar	Prof. R. Orbach (Los Angeles & Imp. Coll.)	Anomalous Phonon Life Times in Solids
Mon, 20 Nov, 6 p.m., I.E.E., Savoy Place, W.C.2.	IEETE Dist. Meeting	E.R.L. Lewis & A.J. Barbo	Technical Staff for the 1970's.
Mon, 20 Nov, 7 p.m., Oxford Coll. of Tech.	IEE District Meeting	A Colour Film of the 1966/67 Faraday Lecture:- "Nuclear Power - Today & Tomorrow" by R.V. Moore.	
Tues, 21 Nov., 2.30 p.m., 21 Banbury Rd., Oxford	Nuclear Phys. Seminar	Prof. T. Tamura	Single Nucleon Transfer Reactions to or via Isobaric Analogue States.
Tues, 21 Nov., 8.30 p.m., 21 Banbury Rd., Oxford	Nuclear Phys. Seminar	Dr. G. Benson (Manchester)	Model Calculations in $^{18}\text{F}$ and $^{18}\text{O}$
Wed, 22 Nov., 3 p.m., Cavendish Lab., Cambridge	HEP Seminar	Dr. G.L. Manning (RHEL)	A Review of CP Violation.
Wed, 22 Nov., 4.45 p.m., Royal Fort, Bristol	Physics and Geophysics Colloq.	Dr. R.R. Hillier (U. of Bristol)	Background Radiation in the Universe
Thurs, 23 Nov, 4.15 p.m., Clarendon Lab., Oxford	Theor.Phys.Seminar	Dr. Nina Byers	Diffraction Peaks and the Coherent- Droplet Model f High-Energy Two- Body Reactions.
Thurs, 23 Nov., 7.30 p.m., Univ. of Reading	I.E.R.E. Branch Meeting	L.J. Russell (Computer Analysts & Programmers(Reading)Ltd.)	Computer Programming
Thurs, 23 Nov., 8.30 p.m., 21 Banbury Rd., Oxford	Elementary Particle Phys. Seminar	Dr. M. Ferro-Luzzi (CERN)	Hyperon Resonances in $\bar{K}N$ Collisions.
Fri, 24 Nov., 4.15 p.m., Clarendon Lab, Oxford	Colloq.	Dr. J.W. Hodby (Clarendon)	Magneto-conductivity and Cyclotron Resonance on Polarons in Alkali and Silver Halides.
Fri, 24 Nov., 6.30 p.m., Bath Univ. of Tech.	Inst. of Maths Lecture	Prof. F.M. Arscott (U. of Surrey)	Beyond Bessel; Higher Special Functions and their Applications.
EVENTS AT AERE.			
Tues, 21 Nov., 2 p.m., Conf.Rm., B.8.9	Theor.Phys.Div. Seminar	Dr. G.H. Stafford	Survey of Nimrod Experimental Programme - Past, Present and Future.
Wed, 22 Nov., 2 p.m., Conf.Rm., B.8.9	Theor.Phys.Div. Seminar	Dr. L. Grunbaum	Nucleon Form Factors Assuming Sideways Dispersion Relations.
Thurs, 23 Nov., 3.30 p.m., Conf.Rm., H.7	Nuclear Phys.Div. Colloq.	Dr. J.M. Freeman	Weak Interactions, Beta Decay, and the Question of a Universal Fermi Interaction.

## Social News

FILM SHOW. See "Internal Events" for details of this week's film.

RECORD SOCIETY. 12.30 p.m., Tuesday, 21 Nov., Lecture Theatre.

Manitas de Plata, Guitarra Flamenco with Jose Reyes, singer.

Ricardo Ballado, familiarly known as Manitas de Plata (Silver Hands) is a Spanish Gipsy. Born in Southern France, he lives in Arles where there has been a Gipsy encampment for centuries. Manitas is an inspired performer, self taught and has played the guitar since childhood. Today, the rage of the Riviera, admired by his countryman, Pablo Picasso, and other figures of the artistic and intellectual world, he is nevertheless a fiercely independent personality. In the art of flamenco, Manitas de Plata and Jose Retes, his cousin, probably have no equals.

CHRISTIAN FELLOWSHIP. Friday, 24 Nov, 12.30 p.m., R1 Conf.Rm.

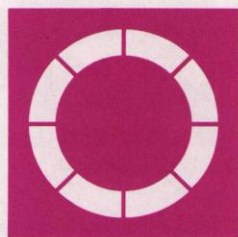
Things we Believe! "WE BELIEVE that the Bible is the inspired Word of God", talk by Ernie Newbold.

Rutherford Laboratory.  
17.11.67.

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



44/67  
27 Nov 67



# Rutherford Laboratory Bulletin

## General News

**OBITUARY NOTICE.** We deeply regret to announce the death of Mr. A. W. Shand, of the Nimrod Engineering Group on Wednesday, 22 November. Alex Shand who was aged 59 joined the Laboratory in April this year. Our deepest sympathy is extended to his relatives.

**NIMROD SHUTDOWN.** Nimrod, which has been on a scheduled shutdown since 4 October, commenced pulsing again on 20 November. Cycle 11 which starts on 1 December and continues until 22 December, will be mainly concerned with the setting up of a number of experiments, the commissioning of the X2 beam line and an investigation into the simultaneous operation of the X1 and X2 extracted beams.

During the shutdown, the insides of the vacuum vessels were given a complete clean. A lot of diagnostic equipment for beam studies in the accelerator was installed and improvements made to the pre-injector, extraction equipment, R.F. system and controls.

On the power supply side, one alternator has been prepared for pulsing and earlier this month tests were carried out on the distribution of pulsed power throughout the electricity grid system using Nimrod as a pulsed load.

In Experimental Hall 1, the K10S beam line has been installed and a number of others completed. Hall 2 has also been a centre of activity and some of the beam lines have undergone modifications.

**VISITORS.** Forty members of the University College London - Mathematics and Physical Society will visit the Laboratory on Saturday, 25 November.

**THE ISAAC NEWTON TELESCOPE.** The 98-inch Isaac Newton Telescope, the largest in Western Europe will be inaugurated by Her Majesty the Queen on Friday, 1 December. The telescope will be on view to the public on Saturday, 2 December from 11 a.m. to 4 p.m. and thereafter daily as follows:- Weekdays 2 - 4 p.m. (winter months), 2 - 5 p.m. (Spring and Autumn) and 2 - 6 p.m. (summer months). Saturdays and Sundays, the opening time is 11 a.m., closing times as weekdays. The telescope stands in the grounds of Herstmonceux Castle near Hailsham in Sussex, the new home of the Royal Greenwich Observatory of the S.R.C.

**RADIATION PROTECTION NOTICE.** Period 13 commences Monday, 27 November. Colour Strip - GREY for fast neutron and  $\beta\gamma$  films. Please change films promptly and ensure that all old films are returned.

**SYMPOSIUM.** The Rutherford Laboratory is arranging a symposium on the possible use of Nimrod for nuclear structure experiments, to be held from 21 - 23 March, 1968. The purpose of this meeting is to discuss the use of high energy accelerators for this field of work, the type of experiments for which Nimrod would be most suitable and to review other work in this field. Further details will be available shortly from Dr. C. J. Batty, Building R.12.

**MISSING EQUIPMENT.** The following items of equipment have been reported missing from the  $\pi 5$  caravan at the end of September:- 2 Avometers, Model 8. Serial Nos. 40098566 and 39372566. Would anyone with information on the present whereabouts of these two instruments please contact Dr. M. A. R. Kemp, R.1, Ext. 218/6247.

**OVERSEAS VISITS.** Dr. J. J. Thresher to the U.S.A., 28 Nov. - 10 Dec., to attend the  $\pi N$  Scattering conference at Irvine, California, and to visit the Berkeley, Argonne and Stanford Laboratories.

Mr. W. Turner and Mr. B. R. Diplock to the U.S.A., 29 Nov. - 13 Dec., for discussions on Bubble Chamber designs with various American Laboratories.

Mr. J. A. Fox to C.E.R.N. 1 - 6 Dec. for discussions on static power supplies, also talks with the 300 GeV Study Group.

## Machine Schedules

**NIMROD Cycle 10 (1.12.67. - 22.12.67.)**

As this cycle is essentially a period of setting up and commissioning, no detailed table of teams and experiments is given.

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

**P.L.A.**

28 Nov. - 2 Dec. Accelerator Physics and Nuclear Physics Tests.

## Internal Events

Mon, 27 Nov, 11.15 a.m., Lecture Theatre.	Nimrod Lecture Series	Dr. D. K. Aitken (U.C.L.)	The Reaction $\pi^- p \rightarrow \pi^+ \pi^- n$ at Momenta between 3 and 3.5 GeV/c.
Tues, 28 Nov, 3 p.m., Lecture Theatre	Nimrod Proposal Lectures	1. Prof. A. Ashmore (Q.M.C.) 2. Dr. John Dowel (Birmingham U.)	A Proposal to Study Small Angle $\pi p$ Scattering using Wire Chambers. A Proposal to Study $K^+ p$ Elastic Scattering from 0.45 to 0.9 GeV/c.
Wed, 29 Nov, 11 a.m., Conf. Rm., R.1.	HEP Disc. Grp.	Dr. G. C. Oades	Analysis of $K^{*4}$ Decays.

Wed, 29 Nov., Cont. Rm., R.12. Digital Equipment Corporation (UK) Ltd. will be exhibiting a PDP-8/S computer and demonstrating the use of the standard soft-wave supplied with the computer, at the following times:-

09.00 - 11.30	General demonstrations of PDP-8/S computer.
10.30 - 12.00	Talk and discussion on the application of small computers.
14.00 - 15.00	General demonstrations of PDP-8/S computer.
15.00 - 16.00	Digital Staff available to discuss any special applications.

Wed, 29 Nov, 12.40 p.m.  
Thurs, 30 Nov, 1.15 p.m.  
Lecture Theatre.

Film

"Seeing in Understanding", a 27 mins.  
colour film by Carl Zeiss.

Continued over



The film this week is about the essence and substance of light in its many phenomena and the purpose and value of optical instruments. The scope of this award winning film is so varied that all that it is possible to say in such a short space is - come and see it.

Fri, 1 Dec, 10.45 a.m., Conf. Rm, R1. Demonstration of a SOEMTRON Electronic Desk Calculating Machine, by Office and Electronic Machines Ltd.

Mon, 4 Dec, 11.15 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. C. Chiu (CERN)	Validity of the Regge and Resonance Interference Model in $\pi N$ Scattering.
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## External Events

**Editors note:-** It has become apparent that some misunderstanding has arisen over the method of entry of events under this heading. Firstly, it is impossible to give any more than a general location of a particular lecture owing to (a) space limitations and (b) information available at time of going to press. Secondly, no guarantee can be given that the events shown will take place owing to last minute changes or cancellations. It is therefore advisable for anyone wishing to attend an external event to check with the appropriate University, College, etc. that the lecture is being given, checking also on the time and actual location. Every effort is made to ensure accuracy and corrections are made, when known, up to the time of actually going to press late on each Thursday afternoon.

Mon, 27 Nov, 4.15 p.m., Queen Mary Coll, London.	Theor. Phys. Seminar	Prof. S. A. Bludman (U. of Pennsylvania and Imp. Coll.)	Non-leptonic Weak Interactions.
Mon, 27 Nov, 5 p.m., Univ. of Reading.	Colloq.	Dr. W. Hayes (Clarendon Lab.)	Magneto-optical Investigations of Colour Centres.
Tues, 28 Nov, 2.30 p.m., 21 Banbury Rd., Oxford.	Nuclear Phys. Seminar	Dr. R.O. Stephen (Oxford)	Isobaric Spin Coupling between (d,p) and (d,n) Channels.
Wed, 29 Nov, 4.45 p.m., Royal Fort, Bristol.	Physics and Geophysics Colloq.	R. Booth (Jodrell Bank)	Radio Emission from the Interstellar OH Radical
Thurs, 30 Nov, 3 p.m., Silver St., Cambridge.	HEP Seminar	Prof. S.A. Bludman (U. of Penn. and Imp. Coll.)	Non-leptonic Weak Interactions.
Thurs, 30 Nov, 2.30 p.m., Clarendon Lab., Oxford.	Low Temp. and Solid State Phys. Seminar.	Dr. M. T. Hutchings	Neutron Scattering from Spin Waves in Antiferromagnets.
Thurs, 30 Nov, 4.15 p.m., Clarendon Lab., Oxford.	Theor. Phys. Seminar.	Dr. T. Osborn (Birmingham)	Bound-state Spectra in a Three-body Problem.
Thurs, 30 Nov, 8.30 p.m., 21 Banbury Rd., Oxford.	Elementary Particle Phys. Seminar	Dr. G. Manning (R.H.E.L.)	Report on the Informal Conference at Princeton on Decays of $K$ Mesons.
Fri, 1 Dec, 4.15 p.m., Clarendon Lab., Oxford.	Colloq.	Prof. S.F. Edwards (Manchester)	How do Electrons Really Behave in a Metal?
<b>EVENTS AT AERE.</b>			
Tues, 28 Nov, 2 p.m., Conf Rm, B8.9.	Theor. Phys. Div. Seminar.	Prof. J. C. Phillips (Cavendish)	Covalent Bonding in Crystals and Molecules.
Thurs, 30 Nov, 3.30 p.m., Conf. Rm, H.7.	Nuclear Phys. Div. Colloq.	Dr. B. W. Ridley	Elastic Scattering of $He^3$ and $He^4$ on the Variable Energy Cyclotron.

## Social News

**FILM SHOW.** See "Internal Events" for details of this week's film.

**RECREATIONAL SOCIETY NEWS - CHESS CLUB TOURNAMENT.** It is always a pleasure to report on any successful venture. The considerable interest shown in the chess tournament and the entry of 38 people (including several county class players), is a success which must be of great satisfaction to the organisers. The tournament is now at the half-way stage and sharing the lead with 8 points apiece is Noel Stewart (Westfield Coll.) and Alen Oxley (Track Analysis Group) closely followed by Bill Turner (High Field Bubble Chamber Group) with 7 points. But there are a lot of people right on their heels with 6 points each. The tournament is expected to end late February or early March. In addition a friendly match has been arranged with the Didcot Chess Club on 14 December.

**CHRISTIAN FELLOWSHIP.** Friday, 1 Dec, 12.30 p.m., Conf. Rm, R.12. Please note return to normal meeting place. Prayer Meeting. All are welcome.

**RECORD SOCIETY.** 12.30 p.m., Tuesday 28 Nov, Lecture Theatre.

"Caught in the Act" - Victor Borge

Victor Borge, a fine pianist and humorist, is too well known to require more than a brief note. It is perhaps unfortunate that a recording does not permit the added enjoyment of seeing him stretching the keyboard to allow a particularly grandiose interpretation but nevertheless his artistry is more than sufficient to enable listeners to enjoy to the full his nimble fingers and nimble wit.

H. F. Norris, Ext. 484

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23.11.67.