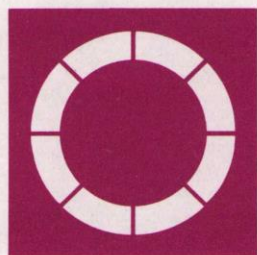


No. 35/69
6 Oct 69



Rutherford Laboratory Bulletin

General News

WINSTON CHURCHILL TRAVELLING FELLOWSHIP 1970. Information regarding the above Fellowship can be obtained from Divisional and Local Administration Offices. Application forms can be obtained direct from the Trust but the completed forms should be directed through Mr. D. Williams, Room 67, Building R.20.

FILM NOTICE. Period 11 commences Monday 6 October. Colour Strip - LIGHT BLUE for β and fast neutron films. Please return all old films promptly.

OVERSEAS VISITS. Dr. G. R. Stevenson, to CERN, 5-7 Oct., to attend 300 GeV Radiation Problems Group Meeting. Dr. L. C. W. Hobbs to CERN, 5-10 Oct., to attend 300 GeV Machine Committee Meeting and meetings of its Study Groups. Dr. I. Butterworth, to CERN, 6-8 Oct., to attend the CERN Track Chamber Committee and Working Party. Dr. C. Fisher, to CERN, 7-10 Oct., to collaborate with CERN experiment and to attend LEOC Meeting.

Machine Schedules

NIMROD. Cycle 11 will be extended until 10 October 1969. Full details of this cycle were given in Bulletin No. 32/69.

Internal Events

Mon., 6 Oct., 11.30 a.m. Lecture Theatre	Nimrod Lecture Series	Dr. P. Grannis (R.H.E.L.)	Associated Production Between 3 and 14 GeV/c
Tues., 7 Oct., 11 a.m. Lecture Theatre	H.E.P. Disc. Group	Dr. G. C. Fox (Cambridge)	Skeletons in the Regge Cupboard (This lecture was first given at the 1969 Stony Brook Conference)
Wed., 8 Oct., 12.40 p.m. Thurs., 9 Oct., 1.15 p.m. Lecture Theatre	Film Show	"Ryokan", 22 mins, Colour.	

Japan has been in the news recently with Princess Margaret opening the British Week, so it is appropriate to present a film which describes life in various types of Japanese hotels and inns. The large modern hotels are much the same as in other countries, but in the traditional hotels and inns life is comparable with that in a Japanese home.

Mon., 13 Oct., 11.30 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. F. Farley (Dean, Royal Military College of Science)	Status of Quantum Electro-Dynamics.
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External Events

Mon., 6 Oct and Mon 13 Oct., 4.15 p.m. Clarendon Lab., Oxford	Elementary Particle Theory Seminar	Dr. P. K. Mitter	Non-polynomial Lagrangians and a Theory of Weak Interaction without Divergences
Mon., 6 Oct., 5 p.m. University of Bristol	Phys. and Geo-Phys. Colloq.	Dr. D.A. O'Conner (Birmingham)	Nuclear Resonant Scattering of Gamma-Rays in Perfect Crystals.

EVENT AT THE ATLAS LABORATORY

Wed., 8 Oct., 2.15 p.m. Large Conference Room	Talk	R. L. Chaddha (Bell Telephone Laboratories)	The use of Logistic Growth Curve and its Generalizations
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EVENTS AT AERE

Mon., 6 Oct., 2.30 p.m., Cockcroft Hall	Nuclear Physics Colloq.	Dr. J.A. Edgington (QMC)	The First Close Look at the Moon.
Tues., 7 Oct., 2 p.m., Conference Room Building 8.9	Theor. Physics Seminar	Dr. L. Heller (Los Alamos and AERE)	A Review of Soft Photon Theorems.
Thurs., 9 Oct., 3.30 p.m. Conference Room H.8	Nuclear Physics Colloq.	Mr. D. B. Smith (Wantage Research Laboratory)	Application of Radioactive Tracers to Geophysical Problems.

Social News

30 MINUTE BREAK - CHRISTIAN FELLOWSHIP. "Called to be a lay pastor" - Ken Lavender is a draughtsman at the Culham Laboratory,

he is also responsible for the little mission hall at Challow near Wantage. He talks to the Fellowship about his call to be a leader of the work at a small mission. Join them on Friday, 10 October, P.L.A. Conference Room, R.12, at 12.30 p.m.

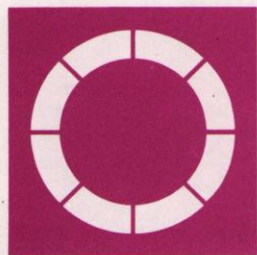
Date for your diary:- 22-25 October British Philatelic Exhibition at Seymour Hall, Marble Arch, London.

Rutherford Laboratory
3.10.69.

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

LDB.

No. 36/69
13 Oct 69



Rutherford Laboratory Bulletin

THE LAST PROTON THROUGH THE P.L.A. TUNNEL

At 11.00 a.m. on Friday, 3 October, in the company of many past and present PLA "old sweats", the Director, ably assisted by John Dickson (who joined the P.L.A. on the same day), switched off the P.L.A. for the last time. Thus ended a period of nine and a half years of medium energy nuclear physics at the RHEL.

Having pressed the button, Dr. Stafford (himself a participant in the commissioning of the PLA) paid a few words of appreciation to the many people who had contributed to the PLA's outstanding record, stressing that, although nostalgia was understandable, the direction for the Laboratory to be looking was forward and not back. He then made the last entry in the log.

Installation of the machine began in 1955, and the first twenty feet (Tank 1) produced a 10 MeV beam for the first time in late 1958. Tank 2 raised the energy to 30 MeV in May 1959 and the final section of the PLA reached its design energy of 50 MeV in July of the same year.

In order to achieve reliable operation it unfortunately became necessary to re-design the radio frequency system, and for this reason, only Tanks 1 & 2 could run (limiting the beam energy to 30 MeV) when regular scheduled operations for nuclear physics experiments began on 20 April 1960. Operational hours were increased in stages until in January 1962, 24 hour running was introduced. From that date 50 MeV protons were again available, though 30 MeV beams accounted for a substantial fraction of the total right through to the end. Even as early as 1962, reliability exceeded 70% and over the last five years has regularly topped 90% with beam-on hours exceeding 7000 per year. Since April 1960, the P.L.A. has produced 43,640 hours of beam out of a scheduled 52,711 hours which is a tribute to the great deal of work carried out by the Engineering, Operations and Accelerator Physics groups.

During its life the beam intensity was increased from a rather unreliable 1μ amp to a very consistent 5μ amp whilst the energy spread was reduced from 200 KeV to better than 50 KeV.

The Grounded Grid Triode power amplifiers have been major contributors to the excellent performance of the P.L.A., the one feeding Tank 1. having failed only last month after over six years use.

The usefulness of the PLA has been enhanced by a number of special facilities. The polarized proton source, (which makes it possible to study the spin dependence of nuclear forces) was one of the earliest to be built and first used for experiments in March 1961. Since then its intensity has been increased by a factor of 100 and the polarization of the beam by a factor of two. At the close, the beam had an intensity of 2×10^9 protons/sec. with 60% polarization, making it one of the most powerful polarized beams available having been in use for about 40% of the time.

The neutron time-of-flight facility, unique in the energy level of the machine, was used to measure the energy spectra of neutrons from nuclear reactions.

On the nuclear instrumentation side, the N_2 double focussing magnetic spectrometer has proved to be a valuable piece of apparatus, capable of measuring the spectra of protons, deuterons, tritons and ^3He particles emitted from nuclear reactions with a resolution of 50 KeV.

The experimental programme has included precision measurements of simple scattering processes, polarization parameters, elastic and inelastic scattering from medium and heavy nuclei and energy level studies in a wide variety of nuclear reactions.

Nearly forty Ph.D's have been awarded and about one hundred and fifty papers have been published as a result of work based on the P.L.A.

In comparison with modern competitors in the nuclear structure field (i.e. the Tandem Van de Graaff and AVF cyclotrons) the PLA has two main drawbacks. Firstly only protons could be accelerated, and secondly the beam energy could be varied only within narrow bands centred on 50, 30 or 10 MeV. Some two years ago it became necessary to face up to the implications of this lack of flexibility, and last Friday's closure was the result. However, despite the fact that its life as an independent accelerator is finished, there is a scheme (PLANIM) on the stocks to use it as a new injector for Nimrod. With this in mind the PLA is now to be mothballed (not literally - the vacuum and water systems and the grounded grid triodes will be kept running).



"THE CLOCK WATCHERS"

The Director, with finger poised on the "off" button, awaits the stroke of 11, together with John Dickson, formerly Leader of PLA Accelerator Physics Group. In the background is Chris Batty, Leader of PLA Nuclear Physics Group.

General News

POST ROOM A combined Rutherford/Atlas Laboratories post room is being established at the Atlas Laboratory and will come into operation on Monday, 13 October, 1969. The post room in Building R.54 will close on Friday at 4 p.m.

The existing arrangements for late mail will continue; letters may be left in the messenger's rooms in Bldgs R1, R2, R12, R20 & R25 up to 3.45 p.m. on Mondays to Thursdays, and up to 4 p.m. on Fridays. Additionally, late mail may be left at the Gate Lodge at out-muster time.

UNCOLLECTED MAIL A letter addressed to Theory Division, Rutherford Laboratory and sent from 29 Falcon Terrace, Whitby, Yorks can be collected from Room 42, R.20.

FILM NOTICE Period 11 commenced Monday, 6 October. Colour strip - LIGHT BLUE FOR $\beta\gamma$ and fast neutron films. Please check that you are wearing the correct dosimeter and that all old ones are returned.

OVERSEAS VISITS. Dr. N. Lipman, to CERN 13-15 Oct., for discussion with Bernard French on possible collaboration at CERN and to attend a meeting arranged by Dr. Ian Fizer at CERN.

Mr. P. Wilde and Mr. R.S. Milborrow, to CERN, 13-15 Oct., to attend meeting and discussions on "Nuclear Instruments in the NIM-format" and related topics.

Dr. R.W. Newport and Mr. W.J. Tallis, to CERN and Sulzer Bros. Zurich, 14-17 Oct., for discussions on refrigeration and refrigeration design study.

Internal Events

Mon., 13 Oct., 11.30 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. F. Farley (Dean, Royal Military Coll. of Science.)	Status of Quantum Electra - Dynamics.
Mon. 13 Oct., 2.15 p.m. Lecture Theatre	Nimrod Users Meeting	1. Long Term Schedule 2. Phase II Hall III 3. Future Computing Plans at RHEL 4. Nimrod Developments - New Extraction Techniques	- - - - Dr. N.H. Lipman Dr. N.H. Lipman Dr. R. Taylor & Mr. J. Burren Mr. N.M. King & Mr. M.R. Harold
Wed., 15 Oct., 11 a.m. Conf. Rm, Bldg R.1.	H.E.P. Disc Grp	Dr. Ramesh C. Garg (U. of California, Irvine)	Analysis of Elastic and Inelastic $\pi\pi$ Scattering using Multi-channel N/D Equations via Quasi Two Body Channels

Wed. 15 Oct. 12.40 p.m. Thurs. 16 Oct.,
1.15 p.m. Lecture Theatre. Film Show "Atoms in the Marketplace", a 28 min, USAEC
colour film.

"Atoms in the Market Place" deals with the economic nature and significance of high cost strategic nuclear materials, with their importance to commerce and to the nations of the world. It is the story of nuclear materials management practices established by the U.S. Atomic Energy Commission, by private industry, by nations throughout the world, and international organisations.

Mon. 20 Oct., 11.30 a.m., Nimrod Lecture Dr. D.R.O. Morrison Review of Two-Body Reactions.
Lecture Theatre Series (CERN)

External Events

Mon., 13 Oct., 2.15 p.m. Nuclear & Elementary Univ. of Sussex. Particle Physics Colloq	Dr. E. Gabathaler (Daresbury)	Interference
Mon., 13 Oct., 4.14 p.m. Theor. Phys. Seminar Q.M.C. London	Dr. K.J. Barnes (Q.M.C.)	Gauge Fields and Symmetry Breaking
Thurs, 16 Oct., 4.15 p.m. Theor. Phys. Seminar Clarendon Lab. Oxford.	Dr. S. Ride Groot (Amsterdam)	Covariant Equations of Motion and of Spin of a Dirac Particle in an Electromagnetic field.

EVENTS AT AERE

Tues. 14 Oct., 2 p.m. Theor. Phys. Seminar Conf. Rm. Bldg 8.9	Dr. J.D. Eshelby (Sheffield U.)	Non-Uniformity Moving Cracks
Thurs. 16 Oct. 3.30 p.m. Nucl. Phys. Colloq Conf. Rm., H.8.	Prof. K. Allen (Oxford U)	Physics Research with a Super Tandem

Social News

RECREATIONAL SOCIETY NEWS. Musicians, are you interested in joining a small group to play at lunch times? is so please contact Mr. E. Sandels, R.25 on Ext. 458/6133.

Netball Players. for friendly lunch time games - either sex. Please contact Miss L. Lister Ext. 6617.

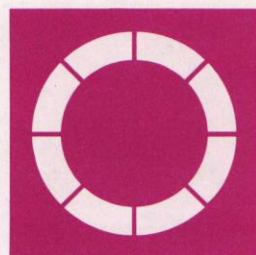
RECORD SOCIETY 12.30 p.m., Tues., 14 Oct, Lecture Theatre.

"All the fun of the Fairground in Stereo - Irwins 89 Key Marengi.

The 1969/70 Record Society season opens with a seasonal presentation. Seasonal because the organ used on this recording could be heard at Abingdon Fair last week. Owned by the family business of George Irvin & Sons who bought the organ second hand sixty years ago, it has travelled the country far and wide and brought delight to countless young and old alike. Only one man is left in the country today making the cardboard music for these organs, each sheet being cut by hand.

30 MINUTE BREAK - CHRISTIAN FELLOWSHIP On Fri., 17 Oct, the Christian Fellowship meeting will take the form of a prayer meeting. This half hour break for meditation and prayer will be led by John Matthews. Join the Fellowship at 12.30 p.m., at the P.L.A. Conf. Room.

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20 Oct. 69



Rutherford Laboratory Bulletin

General News

CERN EXPERIMENTS, 1970-71 Plans are now being made for further experiments to be undertaken on the CERN accelerators when the two, currently running (pion-proton scattering on the 600 MeV synchrocyclotron and Kaon decay modes on the 28 GeV proton synchrotron) complete their data taking in the early part of next year.

The first of the new experiments will run on the PS and will be a study of certain antiproton - proton interactions. It will be a collaborative effort with participants from RHEL, Q.M.C., Liverpool and D.N.P.L. The UK is also contributing one of the initial experiments on the intersecting storage rings. This is a wide angle production experiment and a search for the intermediate boson - a particle, as yet undetected, which is thought to be responsible for the weak interaction that controls decay processes. Another I.S.R. experiment on small angle production is being planned by physicists from Northern centres.

The build-up of equipment will begin next year, and during 1971 there will be about ten Rutherford Laboratory staff at CERN.

SUCCESSFUL 'QUARK' MEETING. Last Friday, 10 October, a one day informal meeting was held at the Cosensers House, Abingdon, on Quarks; attended by thirty-one people from Universities and Laboratories. Critical discussions were held on existing experiments, also on future work and how the Rutherford Laboratory can be of use to outside teams.

FILM NOTICE. It is Period II. Colour Strip - LIGHT BLUE for $\beta\delta$ and fast neutron films.

LIBRARY NOTICE. The following book "YAGODA, Herman, Radioactive measurements with nuclear emulsions, J. Wiley 1949", was left in the Xerox room in R1, and has a note on the fly-leaf, "Nuclear Physics Section". It may be collected from the Library, R.20.

EXTERNAL COURSES. Oxford College of Technology has announced the following short courses:-

"Matrix Methods in Physics", Wednesdays, 29 Oct.-19 Nov. inclusive, from 2.30-4.30 p.m. Fee £1.

"Applications of Group Theory", Wednesdays, 4 Feb.-11 Mar. 1970, inclusive, from 2.30-4.30 p.m. Fee £15.0.

Further information from The Head of the School of Science, College of Technology, Oxford, OX30B1.

POST ROOM - CORRECTION. Letters may be left in the messenger's rooms in Bldgs. R1, R2, R12, R20 and R25 up to 4.45 p.m. on Mondays to Thursdays and not 3.45 p.m. as previously stated.

VISITORS. Thirty pupils and staff from Tottenham County School will visit the Laboratory on Tuesday, 21 October.

Machine Schedules

NIMROD Cycle 12 and 13 (20.10.69-18.11.69)
Machine Physics
High Energy Physics.

Team	Beam	Experiment	
Imp. Coll./Westfield Coll.	X1/K9	2-2.8 GeV/c K^+d Interactions	Data
Birmingham U./RHEL	X2/K12	K_p^+ Differential Cross-section Measurements from 0.45-0.85 GeV/c	Data
Camb.U./RHEL	X2/K13A	Studies of $K^0 \rightarrow \pi^+ \pi^- \pi^0$	Setting up
Oxford U./RHEL	X2/K14A	Polarization Effects in $\pi^+ p$ Elastic Scattering	Setting up
QMC/RHEL/AERE/Bergon	P71	pp Elastic Scattering at Large Angles between 1.5 and 4.0 GeV/c	Data
UCL/RHEL	K6	K^- Differential Cross-sections from 0.85-2.2 GeV/c	Data
Imp. Coll./Southampton U.	π^-	An Investigation of Narrow Bosons Produced in $\pi^- p$ Collisions	Data
Westfield Coll./RHEL	X3/ π^-	Measurement of Eta Decay Asymmetry	Setting up
Bristol U.	X3/K15	K_p^+ Differential Cross-sections from 1.07-2.0 GeV/c	Setting up

Internal Events

Mon., 20 Oct., 11.30 a.m. Lecture Theatre.	Nimrod Lecture Series	Dr. D.R.O. Morrison (CERN)	Review of Two-Body Reactions.
Wed., 22 Oct., 11 a.m., Conf. Rm., R.1.	H.E.P. Disc. Grp.	Dr. R.C. Hanna (RHEL)	Review of the Columbia Conference on Nuclear Structure and High Energy Physics.
Wed., 22 Oct., 12.40 p.m. Thurs., 23 Oct., 1.15 p.m. Lecture Theatre.	Film Show.		"The Champions" - Part 6 in The History of Motor Racing Series. 28 min., colour.

This film covers the period, 1949-1951 in which a new name appears. At San Remo an Argentinian mechanic, Juan Manuel Fangio begins a series of victories that will make his name a legend. The new Grand Prix Ferrari starts to challenge the type 158 Alfa Romeo and Farina, Fangio and Ascari become involved in many epic battles. The 1950 Grand Prix at Silverstone, a Royal occasion was the first race ever to count towards an official World Championship for Drivers.

Mon., 27 Oct., 11.30 a.m. Lecture Theatre.	Nimrod Lecture Series.	Dr. A. Parsons (RHEL)	Experiments on the Radioactive Decays of Baryon Resonances.
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External Events

Mon., 20 Oct., 4.15 p.m. Queen Mary Coll.	Theor. Phys. Seminar	Prof. R. Arnowitt (Boston and King's Coll.)	Current Algebra and $\pi\pi$ Scattering.
Mon., 20 Oct., 4.15 p.m., Clarendon Lab., Oxford.	Elementary Particle Theory Seminar	Dr. N. Dombey (Sussex)	Coulomb Coupling and the Regge Theory of Photoproduction.
Mon., 20 Oct., 5 p.m., Univ. of Reading.	Colloq.	T.P. McLean (R.R.E. Malvern)	High Field Transport Effects in Semiconductors.
Wed., 22 Oct., 2.30 p.m. Univ. of Manchester.	Theor. Phys. Seminar	Prof. B.H. Bransden (Durham)	The Analysis of Pion Nucleon Scattering.
Wed., 22 Oct., 8.15 p.m. Oxford U. Maths. Inst.	British Computer Soc. Meeting.	Prof. D.W. Barron (Southampton)	In Defence of Recursive Programming (non-members welcome)
Thurs., 23 Oct., 4.15 p.m., Clarendon Lab., Oxford.	Theor. Phys. Seminar	Dr. J. Paton	Review of the Veneziano Model.
Thurs., 23 Oct., 4.15 p.m., Univ. of Sussex.	Theor. Phys. Seminar.	J.G. Taylor (Southampton)	Tachyons - Particles Travelling Faster than Light.
Fri., 24 Oct., 4.15 p.m., Clarendon Lab., Oxford.	Colloq.	Dr. R. Berman (Clarendon)	Diamonds on Earth and Moon.

EVENT AT ATLAS LAB.

Tues., 21 Oct., 2.15 p.m., Large Conf. Rm.	Talk	Peter Hadingham (Director, Swift Film Productions)	Experiences and Expedients in Direct 16 mm Film Production.
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EVENTS AT AERE

Tues., 21 Oct., 2 p.m., Conf. Rm., Bldg. 8.9	Theor. Phys. Seminar.	Dr. A. Herzenberg (Manchester)	Auto-Ionising States in Molecules.
Thurs., 23 Oct., 3.30 p.m., Conf. Rm., H.8.	Nucl. Phys. Colloq.	Dr. C. Fisher (RHEL)	Physics Programme for the Proposed High Field Bubble Chamber.

Social News

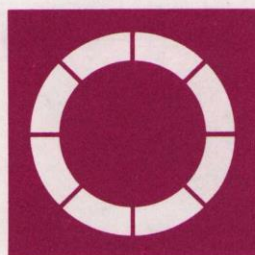
CHRISTIAN FELLOWSHIP "Christian View Point - What the Papers Say". The Christian Fellowship, meeting in the P.L.A. Conference Room, discuss items from their newspapers. Bldg. R.20, 12.30 p.m., Fri., 24 Oct.

RECORD SOCIETY 12.30 p.m., Tues., 21 Oct., Lecture Theatre.

Symphony No: 1 - Beethoven, played by the London Symphony Orchestra and conducted by Josef Krips.

It is hoped to play all nine of Beethoven symphonies during the next nine months.

No. 38/69
27 Oct 69



Rutherford Laboratory Bulletin

General News

NEWS FROM ABROAD. The new 12 ft Bubble Chamber at the Argonne National Laboratory has come into operation. Tracks produced by cosmic rays were observed on 13 October, and on 19 October photographs were taken of beam tracks from the Zero Gradient Synchrotron. The Chamber which contains 26,000 litres of liquid hydrogen, is the world's largest bubble chamber, and it embodies superconducting magnet coils. It is expected that the first physics exposures will be taken early in the new year when a neutrino experiment in hydrogen and deuterium is scheduled.

Engineering tests are continuing on the chamber at the time of writing, the results achieved so far are very encouraging to the constructors of other large bubble chambers. Photography in the 12 ft chamber is through 'fish eye' windows, the technique to be adopted by the CERN 3.7 metre chamber and the Rutherford Laboratory's proposed High Field Chamber.

FILM NOTICE It is Period 11. Colour Strip - LIGHT BLUE for $\beta\delta$ and fast neutron films.
Next film change - Monday, 3 November.

OVERSEAS VISITS Dr. A.G.A. M. Armstrong, to CERN, 27-28 October to attend meeting of the 300 GeV Magnet Working Party
Dr. A. Astbury, to CERN, 27-28 October to attend a meeting with Dr. Falk-Vairant and for discussions with Miss Limentani.
Dr. J.D. Lawson, to Saclay and Karlsruhe 27 October - 1 November for discussions on superconducting accelerator research and collective ion accelerators.

Machine Schedules

NIMROD Cycle 12 and 13 (20.10.69 - 18.11.69)

Machine Physics; High Energy Physics (X1/K9, X2/K12, X2/K13A, X2/K14A, P71, K8, π 7, X3/ π 8 and X3/K15)

Full details of Cycles 12 and 13 were given in Bulletin No. 37/69

Internal Events

Mon., 27 Oct., 11.30 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. A. Parsons (RHEL)	Experiments on the Radiative Decays of Baryon Resonances.
Wed., 29 Oct., 11 a.m., Conf. Room, R.1	H.E.P. Disc Group	Dr. R.C. Hanna (RHEL)	Review of Columbia Conference of Nuclear Structure and High Energy Physics
Thurs. 30 Oct., 11.15 p.m.	Film Show		"Discovery in Space" - 30 mins. film from the British Aircraft Corporation.
Fri. 31 Oct., 12.40 p.m. Lecture Theatre			

(PLEASE NOTE CHANGE IN DATES FOR THIS WEEK)

"Discovery in Space" describes in turn the experiments on Aerial III carried out by the Radio and Space Research Station, the Meteorological Office, Sheffield University, Birmingham University and Jodrell Bank - Manchester University. Members of the space research group who designed the payloads for the satellite are introduced by Mr. Alan Ladd, the Aerial III Programme Manager, formerly of the Science Research Council.

Mon., 3 Nov., 11.30 a.m., Lecture Theatre	Nimrod Lecture Series	Dr. S. Tovey (CERN)	A study of the K_L^+ Form Factors
Thurs., 6 Nov., 3.15 p.m., Lecture Theatre	Rutherford Lab. Lecture	Dr. E. Eastwood (Research) Director English Electric Co. and Member of the S.R.C.	Radar, Birds and Aircraft

External Events

Mon., 27 Oct., 2.15 p.m. Univ. of Sussex	Nuclear and Elementary Particle Physics Colloq.	Dr. A.N. James (Liverpool)	Single Particle Levels by (p, 2p) Reactions.
Mon., 27 Oct., 4.15 p.m., Clarendon Lab., Oxford	High Energy Theory Seminar	Dr. D.H. Lyth (Lancaster)	Crossing Sum Rules and Veneziano
Tues., 28 Oct., 2.30 p.m., 21 Banbury Rd., Oxford	Nuclear Phys. Seminar	Dr. N.H. Lipman (RHEL)	The C.P. Situation
Wed., 29 Oct., 2.30 p.m., Univ. of Manchester	Theor. Phys. Seminar	Prof. L. Castillejo (U.C.L.)	Some Recent Developments in the Eikonal Approximation
Wed., 29 Oct., 3.0 p.m. Univ. of Cambridge	High Energy Physics Seminar	R. Arnowitt (N.E. Univ. Boston)	Veneziano Amplitudes, Form Factors and Current Algebra
Thurs., 30 Oct., 4.15 p.m. Clarendon Lab., Oxford	Theor. Phys. Seminar	Dr. A.M. Lane (AERE)	Correlations Between Neutron Capture Resonance Parameters
Thurs., 30 Oct., 8.30 p.m. Banbury Rd., Oxford	Seminar in Elementary Particle Phys.	Dr. C. Wohl	K^+ Deuterium Reactions around 1.0 GeV/c Laboratory Momentum.
Fri., 30 Oct., 4.15 p.m. Clarendon Lab., Oxford	Colloq.	Dr. R.A. Stradling (Clarendon Lab.)	The Influence of Optical Phonons on Electrical Conduction in Semiconductors.
EVENTS AT AERE			
Tues., 28 Oct., 2 p.m., Conf. Rm. Bldg. 8.9	Theor. Phys. Seminar	Dr. R. Bullough (AERE)	Defect Sources and the Decomposition of Distortion Fields in Anisotropic Bodies.
Thurs., 30 Oct., 3.30 p.m. Conf. Rm. H.8	Nuclear Phys. Colloq.	Dr. C.J. Batty (RHEL)	High Energy Physics and Nuclear Structure, including a report on the Columbia Conf. on this topic.

Social News

CHRISTIAN FELLOWSHIP. The visitor to the 30 MINUTE BREAK at the P.L.A. Conf. Rm., R.12 on Friday 31 October could well be called a Berkshire version of John Wesley. An evangelist working within the county boundaries, Ken Brighton can be found in tent or chapel, tented camp or town centre, preaching with open bible. Join him at 12.30 p.m.

RECORD SOCIETY 12.30 p.m. Tues 28 October Lecture Theatre

'Autumn Leaves' - Frank Sinatra with various orchestras.

This steric recording contains a number of the more romantic types of songs such as 'Everybody Loves Somebody', 'Fools Rush In' and of course 'Autumn Leaves'.

Rutherford Laboratory
24.10.69

H.F. Norris Ext. 484
Scientific Admin Group. Bldg. R20.