



6-13 March 1972
bulletin 10

R(12), NDT(60,3), ISW(3500), ANGLE(60), YINT(60), DUMMY(20),
(6,3), NACHT(48), XCEN(12), YCEN(12), PAR(12), CH(12), AR
MMON/CFID/MFX(20,3), MFY(20,3), NFDX(10,3), NFX(3), NFD(3), I
B(2,20,3), NX(100,4), NY(100,4), XN(2), YN(8), IB(100,2), X
DY(100,2), JDX(4), JDY(4), IHS(4), IOV(2), IUN(2), ID(2), DE
CF(16), IFS, NFS, FX, FY, JK, PIC, KPIC, NCOUNT, NBIN, MAX V, IUN
AXN, CTA, CTB, MX, MY, JA, JB, JC, JD, JE, JF, XF(20,3), YF(10,
MMON/CJACK/NSY(20,30), NMS(20), NDR(20), XAL(16), UYA
(20), BX(20), NST1(20), NST2(20), INER(20), NSX(20,30), AMI(60

RUTHERFORD LABORATORY LECTURE

This week we welcome Professor P H Fowler of the University of Bristol who will give the next lecture in the Rutherford Laboratory Lecture Series. His lecture entitled "Ultra Heavy Elements in the Cosmic Rays" will be at 3.15 p m on Thursday 9 March in the Lecture Theatre.

The discovery of a radiation reaching the earth from outer space was demonstrated at the turn of the last century by measurements on the conductivity of gases. Prior to World War I these radiations became known as the cosmic radiation although it was not until 1926 that the existence of cosmic radiation was generally accepted. During the period between the two World Wars work was continued on this subject with increasing success partly brought about by the use of more refined instrumentation. In particular the cloud chamber invented by C T R Wilson in 1911 enabled Anderson in 1932 to discover the positive electron (the positron). The detection of the μ -meson in the mid thirties and the accumulation of a vast background of experimental data enabled very rapid progress to be made in the post war period.

Professor Fowler will present a status report on the research into the ultra heavy component of the cosmic ray primaries. Abundance peaks are confirmed at charges Z_{452} and 76, as also is the presence of nuclei with $Z > 90$. Progress has unfortunately been less rapid than hoped and no sure example of transuranic elements have been found. An account will also be presented of preliminary work on a new electronic counter, using gas scintillation, which is being developed to measure these rare cosmic rays. The lecture will be illustrated with many slides of track events, and balloon pictures.

CURRENT AFFAIRS - GETTING BACK TO NORMAL

Following the rapid return to normal in the electricity supply we can now add a brief note to last weeks report.

On Tuesday 22 February, it was decided to start preparing Nimrod for operations as soon as conditions permitted. Consumption on Nimrod therefore rose from 300 KW to 1 MW on Tuesday rising during the next three days to 2 MW. On Friday 25 February, the Management Committee authorised magnet pulsing as from 16.30 hours on that day and consumption rose that evening to 5.5 MW. On Monday 28 February a start was made on a limited programme at 3.2 GeV. The full scheduled HEP programme at 7 GeV will commence on Saturday 4 March. The central computer is now back in full operation.

THE PHYSICS EXHIBITION- 1972

The 1972 Physics Exhibition is being held at Alexandra Palace, North London from Monday 13 - Thursday 16 March inclusive. Tickets (free) may be obtained from C J. Heming Building R20 Ext 6607 or the Editor Ext 484. The Laboratory is showing six exhibits -

- | | | | |
|---|-------------------------------|---|---|
| 1 | T V Data Taking System | 4 | Thin Septa for Magnets |
| 2 | Wire Electrode Separator | 5 | Epoxy Resins for use in Superconducting Magnets |
| 3 | Superconducting R F Separator | 6 | Mineral Insulation |

FILM BADGE NOTICE

It is Period 3. Colour Strip - GREEN for 8y films and fast neutron packs. Please check that you are wearing the correct dosimeter and that all old ones are returned.

MISSING EQUIPMENT

The following items of equipment have been reported missing:-

6 point Potentiometric Recorder - Kelvin Hughes Model HPR/A6 Serial No PI083, Loan Pool No 1287.

Anyone with information on the present whereabouts of this instrument is asked to contact Mr V A Thorp Ext 382.

$\frac{1}{4}$ " Wolf Electric Drill AERE No 14511

Anyone with information on the present whereabouts of this tool is asked to contact Mr R Griffiths Building R9 Ext 563.

Continued on page 4

INTERNAL EVENTS

NIMROD LECTURE SERIES

Monday 6 March
11.30
Lecture Theatre

Meson - Meson Interaction

Dr J L Peterson/CERN

HEP DISCUSSION GROUP

Wednesday 8 March
11.00
Conference Room Building R1

Duality Predictions in Triple-Regge Region

Dr W S Lam/UCL

FILM SHOW

Wednesday 8 March
13.15
Thursday 9 March
12.40
Lecture Theatre

Pesticides in Focus, a 25 minute colour film from Shell International Chemicals

Chemical pesticides, but for viewing by the general public. It presents a picture of a manufacturer willing to spend up to 8 years and £1 million to make as sure as possible that no living thing, plant insect, fish, animal, bird or human will suffer the slightest inconvenience, let alone damage or death from a new pesticide. But how sure is sure? One is shown the meticulous and painstaking work of making these new pesticides; the skill of the chemist, the patient building of safeguards, the checks and rechecks until the perfect pesticide is evolved. This however still leaves many questions unanswered. Does this film tell us more than half the story? And who will tell us the other half?

RUTHERFORD LABORATORY LECTURE

Thursday 9 March
15.15
Lecture Theatre

Ultra Heavy Elements in the Cosmic Rays

Professor P H Fowler/University of Bristol

(See page 1 for details)

SEMINAR IN COMPUTING

Friday 10 March
11.00
Conference Room Building R12

An Introduction to HASP

P Girard/RHEL

The Rutherford Laboratory 360/195 runs under an operating system augmented by HASP. The purpose of this seminar is to explain what HASP is and its purpose, and to give an outline impression of how it works.

NIMROD LECTURE SERIES

Monday 13 March
11.30
Lecture Theatre

CP-, T-, and CPT- Invariances in Neutral K- Decay

Dr G V Dass/DESY

EXTERNAL EVENTS

THEORETICAL PHYSICS SEMINAR

Monday 6 March
16.15
Queen Mary College

Scaling Laws and the Magnetic Equation of State

Dr D S Gaunt/Kings College

NUCLEAR PHYSICS SEMINAR

Monday 6 March
16.30
Nuclear Physics Lab Oxford

High Technology Amidst Low Economic Growth

Dr I Maddock/Chief Scientist Department of Trade and Industry

PHYSICS & GEOPHYSICS COLLOQUIUM

Monday 6 March
17.00
University of Bristol

Computer Calculations of Crack - tip Structure

Dr J E Sinclair/AERE & University of New South Wales

DARESBUURY LECTURE SERIES

Tuesday 7 March
14.30
Daresbury Laboratory

Search for High Mass Mesons at Serpukhov

M Martin/CERN

ELEMENTARY PARTICLE PHYSICS SEMINAR

Tuesday 7 March
14.30
Nuclear Physics Lab Oxford

Cornell Conference on Electron and Photon Physics - Part 2

Dr W S Williams and Professor R H Dalitz

(no further meetings will be held in the series until next term)

THEORETICAL PHYSICS SEMINAR

Wednesday 8 March
14.30
University of Manchester

Black Holes etc

Dr J S Dowker/Manchester

IEE FILM SHOW

Wednesday 8 March
19.00
Culham Laboratory

Film Evening - Films of Technical Interest

*Further details and information from J L Taylor Southern Electricity Board,
1 Woodstock Road Yarnton Oxford*

THEORETICAL PHYSICS SEMINAR

Thursday 9 March
16.15
Clarendon Laboratory Oxford

Dynamics of Macro molecular Networks

Professor S F Edwards/Manchester

ELEMENTARY PARTICLE THEORY SEMINAR

Friday 10 March
14.30
Clarendon Laboratory Oxford

Dual Resonance Model and Inclusive Reactions

P Hoyer/Oxford

EVENT AT AERE

THEORETICAL PHYSICS SEMINAR

Tuesday 7 March
14.00
Conference Room Building 8.9

The Electrochemical Effect in Alloys: An Empirical Description and its Theoretical Implications.

Dr P de Chatel/Amsterdam and Cambridge

RUTHERFORD LABORATORY BULLETIN

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Deadline
for
Insertions

GENERAL & SOCIAL NEWS

Tuesday 1600

INTERNAL & EXTERNAL EVENTS

Wednesday 1200

Room 42 Building R20
Rutherford Laboratory
Chilton Didcot Berks
Abingdon 1900 Ext 484

1972 CARGÈSE SUMMER INSTITUTE

Details of the 1972 Cargèse Summer Institute on Electromagnetic Interactions of Elementary Systems, to be held from 2 - 29 July have been received. Further information from the Editor.

OVERSEAS VISITS

Dr L C W Hobbs, Mr D C Salter and Dr G C Stirling, to Grenoble, France 5 - 10 March, to attend 5th Symposium on Neutron Inelastic Scattering.
Dr R J N Phillips and Dr R G Roberts to France 5 - 17 March, to attend the 7th Rencontre de Moriond at Meribel-les-Alpes. Dr Phillips will also give a lecture.
Dr J J Thresher to CERN, 5 March for approximately three days to attend meeting of ECFA Executive Committee.
Dr W G Williams to Grenoble France, 6 - 10 March, for discussions on polarised neutron work at the Institut Max Von Laue.
Dr G E Kalmus to CERN, 6 - 11 March to attend CERN TCC Meeting and K⁰ Collaboration Meeting.
Dr C M Fisher to CERN, 7 - 9 March to attend ECFA meeting on High Field and Rapid Cycling Bubble Chambers, New Visual Detectors and to attend CERN TC Meeting.
Dr R L Sekulin to CERN, 7 - 9 March to attend K⁰ Collaboration Meeting.
Mr R S V Stovold and Mr P T M Clee to Karlsruhe Germany, 9 - 10 March for discussions on Superconducting dipole magnets.
The Director to Oslo 10 - 16 March to attend European Physical Society Executive Committee and Council.

SOCIAL NEWS

CHESS RESULTS

We hope to give full details of the result of this years Chess Tournament in next weeks Bulletin - guess who won?

CHRISTIAN FELLOWSHIP - FILM SHOW

All welcome to a showing of "MAF (Missionary Aviation Fellowship) in New Guinea", in the Lecture Theatre at 12.30 p m on Friday 17 March. This film lasts for 28 minutes and describes the work of the Missionary Aviation Fellowship in many tropical countries, where jungle, desert, swamp or mountain make surface travel extremely difficult or impossible.

RECORD SOCIETY

Tuesday 7 March at 12.40 p m in the Lecture Theatre

Tchaikovsky : Symphony No 5 in E Minor, London Symphony Orchestra conducted by Sir Malcolm Sargent.

Undoubtedly not only the best constructed of all Tchaikovsky's Symphonies but probably the most popular. He composed it in 1888, an eleven year interval between this and the 4th; and although it was well received by the public he himself thought it a failure. However some months later after a number of successful performances he came to like it far better. This interpretation is extremely good as one would expect from the L S O coupled with Sargent.

FOLK CLUB

Friday 10 March at 8 p m in the Coffee Lounge R22.

"The Shambles" two boys who are the resident singers at the Reading Folk Club. They use an interesting variety of instruments with guitar, mandoline, banjo and Turkish SAZ. Their music, well again a variety with traditional, Contemporary, Rag and Music Hall. Tickets at 20p from Terry Batchellier R34, John Rice R2, Restaurant Coffee Lounge, Pauline Hughes R1, Tim McKee and Stephanie Hannon R22.

SEVEN-A-SIDE SOCCER

A match has been arranged between an AERE Admin side and our own R25 League side. Kick-off 12.40 p m on Thursday 9 March on the Rutherford pitch. The Rutherford League take this opportunity to welcome Mic Lovell and his team who, from their past record in the AERE League will give a good account of themselves. Lets hope that R25 can match the occasion. Teams:-

Admin AERE (Blue & white strip)
M Lovell (Capt)
P Burton
R Bayliss
C Thorne
N Nape
R Pateman
E Hallinrake

R25 (Red strip)
K Fisher
A Bell
J Holliday (Capt)
I Robins
D Ferrie
J Makerness
M Wise (Sub S Carr)