



Rutherford  
Laboratory

26 June-3 July 1972  
bulletin 23  
R(12), NDT(60,3), ISW(3500), ANGLE(60), YINT(60), DUMMY(84),  
(6,3), NACHT(48), XCEN(12), FN(2), CHAF(2), R  
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(100,3), IDX(  
DY(100,2), JDX(4), JDY(4), IHS(4), IOV(2), IUN(2), ID  
CF(16), IFS, NFS, FX, FY, JK, PIC, KPIC, NCOUNT, NBIN, MAXI, Y  
AXN, CTA, CTB, MX, MY, JA, JB, JC, JD, JE, JF, XF(20,3), YF(20,3)  
MMON/CJACK/NSY(20,30), NMST(20), NDR(20), NY(16), Y  
(20), BX(20), NST1(20), NST2(20), INER(20), NSX(20,30), AN(60)

#### NATIONAL SAVINGS CERTIFICATES

Weekly Cycle 5 - Certificates can be collected from the Cash Office R20 from 26 June onwards.

Monthly Cycle 5 - Certificates can be collected from the Cash Office R20 from 3 July onwards.

New members wishing to join the scheme can obtain enrolment forms from the Cash Office.

#### FILM BADGE NOTICE

It is Period 7, Colour Strip PURPLE for B<sub>γ</sub> films and fast neutron packs. Please check that you are wearing the correct dosimeters and that all old ones are returned.

#### BULLETIN NOTICE

The next Bulletins will each cover a period of Two weeks.

#### VISITORS TO THE LABORATORY

Twenty pupils and staff from Kingsley School, Leamington will visit the Laboratory p m Saturday 1 July.

#### OVERSEAS VISITS

Mr P Bowles to CERN 25 - 28 June, for discussions. Dr D Morgan to Finland 25 June - 3 July, to give lectures at the Finnish Summer School, Loma-Koli. Drs R A Riddle, L H Watson, D J Baugh and B W Allardyce to Aix-en-Provence 25 June - 1 July to attend European Conference on Nuclear Physics. Dr G H Stafford to CERN, 27-28 June, to attend meeting of Executive Committee of European Physical Society. Dr G Manning to CERN, 27 - 30 June for ISR Experiment. Dr A S L Parsons to CERN 28 June - 7 July for S99 Experiment.



## INTERNAL EVENTS

### NIMROD LECTURE SERIES

Monday 26 June  
11.30 a m  
Lecture Theatre

$K_4$  Decay

Dr R Turley/Saclay

### HEP DISCUSSION GROUP

Wednesday 28 June  
11.00 a m  
Conference Room Building R1

More on  $K^0$  Decays

David Dorfan/University of California, Santa Cruz and RHEL

### SEMINARS IN COMPUTING

Friday 30 June  
11.00 a m  
Conference Room Building R12

Interactive Programming as an aid to Magnet Design

C W Trowbridge/RHEL

A new package of programs for designing and calculating the fields of 2 and 3 dimensional magnets will be described. These programs operate in both on-line and off-line modes; in the on-line mode a graphics display terminal is used.

The magnet designer has at his command a set of basic element shapes with which to specify the geometry of his magnet. As the elements are defined they are displayed graphically. Three dimensional geometries can be viewed stereoscopically.

### TALK ON COMPUTING

Friday 30 June  
12.20 p m  
Lecture Theatre

Predicting Eclipses by Computer

A G Bell/RHEL

A computer generated film, lasting about 10 minutes, will be used to demonstrate some fundamentals of predicting solar eclipse.

### SUMMER SCHOOL FOR EXPERIMENTALISTS

The Lecture Theatre will be used daily 3 to 14 July inclusive for lectures to students of the British Summer School for Experimentalists in High Energy Physics.

## NIMROD SCHEDULE

CYCLE 8 27 6 72 - 18 7 72

MACHINE PHYSICS

HIGH ENERGY PHYSICS

<u>Team</u>	<u>Beam</u>	<u>Experiment</u>	<u>State</u>
Glasgow University RHEL	N4	$\pi^-p$ Differential Cross-Sections	Setting up (Main user)
Bristol University Southampton University RHEL	K15	$\pi^+p$ Differential Cross-Sections	Data
Churchill Hospital Oxford RHEL	$\pi 11$	Radiobiological Experiment	Data
Imperial College * Southampton University	$\pi 7$	Studies of $\eta$ $\omega$ and $A_2$ mesons	Data
Imperial College	K12A	Calibration of $K^+$ detectors	
Cambridge University RHEL	K13C	* Associated Production Cross-Sections	Data
Birmingham University RHEL	K12A	$K^+ - \eta$ Elastic Scattering and $K^+ n$ Charge Exchange	Data

Nimrod will be operated to provide special conditions throughout this cycle. Though primarily a low-momentum X3 cycle it is planned to extract protons into both X3 and X2 extracted proton beams during the same machine pulse. The spill to X3 will be about 300 m sec at 4 GeV/c and to X2 approximately 100 m sec at 7 GeV/c.



## EXTERNAL EVENTS

### FORTHCOMING EVENTS

#### IEE INTERNATIONAL CONFERENCE ON GAS DISCHARGES

The Second International Conference on "Gas Discharges" will take place at the Institution of Electrical Engineers from 11 - 15 September 1972. It is organised by the Science, Education and Management Division of the IEE in association with the Institute of Electrical and Electronics Engineers (UK and Republic of Ireland Section), the Institute of Physics, the Institution of Electronic and Radio Engineers and the Welding Institute.

Provisional programmes and registration forms are now available from the Manager, Conference Department, IEE, Savoy Place, London WC2R 0BL.

#### IEE CONFERENCE ON ELECTRICAL VARIABLE SPEED DRIVES

Provisional programmes and registration forms for the conference "Electrical Variable Speed Drives" are now available. Organised by the Power Division of the Institution of Electrical Engineers in association with the Institute of Electrical and Electronics Engineers (UK and Republic of Ireland Section) the conference will be held at the IEE from 10 - 12 October 1972.

Requests for provisional programmes, registration forms and any further information should be sent to the Manager, Conference Department, IEE, Savoy Place, London WC2R 0BL.

#### INSTITUTE OF PHYSICS CONFERENCE ON RELIABILITY PHYSICS OF ELECTRONIC COMPONENTS

A one-day conference on Reliability physics of electronic components will be held at Imperial College, London, on 8 November 1972. Organized jointly by the Electronics and the Materials and Testing Groups of The Institute of Physics, and the IEE, the conference will cover the following topics: vulnerability of large electronic systems, failures in electronic systems, modes of component failure, failure mechanisms, quality assurance and control.

Further details and application forms will be available in September from The Meetings Officer, The Institute of Physics, 47 Belgrave Square, London SW1X 8QX.

#### INSTITUTE OF PHYSICS MEETING ON-LINE COMPUTERS FOR LABORATORY EXPERIMENTS

The Electronics and Computational Physics Groups of The Institute of Physics are arranging a meeting on this subject on 13 December 1972 at Imperial College.

The morning session will be tutorial and the following topics will be discussed:-

Minicomputers (hardware and software), backing store, analogue to digital and digital to analogue converters, multiplacers, instruments as computer input, British Standard Interface etc.

The afternoon will be devoted to case studies. It is hoped to include papers on data acquisition and monitoring in both small and large systems, CAMAC system, on line control of experiments etc.

Contributed papers are invited for the afternoon session. Synopses should be sent to:-

Dr H W Loeb, Cranfield Institute of Technology, Cranfield, Bedford.

Further details and application forms will be available in October 1972 from the Meetings Officer, The Institute of Physics, 47 Belgrave Square, London SW1X 8QX.

RUTHERFORD LABORATORY BULLETIN

Published by the Scientific Administration Group

Acting Editor: F HARDEN

Deadline  
for  
Insertions

GENERAL & SOCIAL NEWS  
Tuesday 1600

INTERNAL & EXTERNAL EVENTS  
Wednesday 1200

Room 40 Building R20  
Rutherford Laboratory  
Chilton Didcot Berks  
Abingdon 1900 Ext 6114



## SOCIAL NEWS

### SRC SPORTS DAY

On Monday 19 June the SRC Sports Day was held at the Civil Service Sports Ground at Chiswick. The results were:

Football	-	Winners	DNPL
Cricket	-	Winners	RHEL
Netball	-	Winners	RHEL
Tennis (mixed doubles)	-	Winners	London Office
Tennis (mens doubles)	-	Winners	RSRS
Bowls (pairs)	-	Winners	DNPL
Bowls (fours)	-	Winners	RHEL
Table Tennis	-	Winners	RHEL
Chess	-	Winners	RSRS

A more detailed report will be given in the next Bulletin.

### CHRISTIAN FELLOWSHIP

Friday 30 June. This week we have a second visit from one of the evangelists of the current Thames Valley Crusade. The meeting commences at 12.30 p m in R12 Conference Room and all are welcome to come along.

### FOLK CLUB

The Folk Club, in association with the Rutherford and Atlas Recreational Society, is held every Friday in R22 Coffee Lounge at 8 p m. Licensed Bar. Details can be obtained from Stephanie Hannan Ext 6229.

- Friday 23 June 'MAGIC LANTERN' - folk songs illustrated with puppets.
- Friday 30 June Tony Capstick - Traditional singer and guitarist, sings mainly songs about the Industrial North but is also very humorous.
- Friday 7 July Joe Stead - Introducing the harmonious, euphonious folk singer extraordinary.  
(Comments by Fred Osborne, Focus on Folk B M G Magazine).  
"Joe Stead is not just a genial giant with a banjo, he is a dynamic bomb that explodes afresh with each performance but dont take my word for it go along and hear the 'bang' yourself".
- Friday 14 July Rosemary Hardman.
- Friday 21 July Rod Garfield and Tony Brummel-Smith.
- Friday 28 July Mike Absolom
- Friday 4 August Paul Weaving.