



Rutherford  
Laboratory

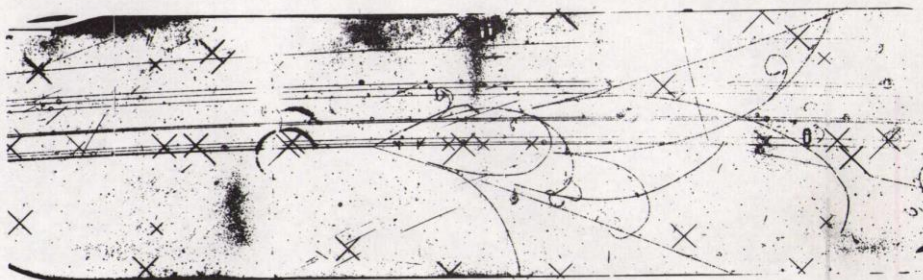
R(12), NDT(60,3), ISW(3500), ANGLE(60), YINT(60), DUMMY(R4),  
(6,3), NACHT(48), XCEN(12), YFE(12), TBA(12), TCHA(12), R  
MMON/CFID/MFX(20,3), MFY(20,3), NFD(1,3), NFX(3), NFD(3), I  
B(2,20,3), NX(100,4), NY(100,4), XN(2), YN(8), IB(100,2), IDX(  
DY(100,2), JDY(4), JDX(4), IHS(4), IDV(2), IUN(2), ID  
CF(16), IFS, NFS, FX, FY, JK, PIC, KPIC, NCOUNT, NBIN, MA  
AXN, CTA, CTB, MX, MY, JA, JB, JC, JD, JE, JF, XF(20,3), YF(  
MMON/CJACK/NSY(20,30), NMS(20), NDR(20), NSR(20), XA(60), A  
(20), BX(20), NST1(20), NST2(20), INER(20) bulletin 29

## SUCCESS ON TRACK SENSITIVE TARGET

The first physics experiment is now running using the 'track sensitive target facility' in the Laboratory's 1.5m cryogenic bubble chamber. A full description of this facility was given in Bulletin No 43, 6-13 December 1971. (See also July/August Issue of CERN Courier P 244/245).

The detection of  $\gamma$  rays from  $\pi^0$  decay in the 77 Mole % neon surrounding the hydrogen target permits the study in detail of events produced on hydrogen with more than one  $\pi$  meson. At 0900 hours on 3 September 1972, the 500,000 picture using this target was taken. On the same day the number of pictures taken was 29,500 giving an overall Nimrod/Chamber efficiency of about 95%.

At the time of going to press about 600,000 pictures have been taken on this experiment which is mainly to investigate the  $\pi\pi$  system in the channel:  $\pi^+\pi^- \rightarrow \pi^+\pi^-$  at 4 GeV/c, and also to study other channels with one or more  $\pi$  mesons. It is anticipated that the run will continue for the rest of this cycle and it is hoped to exceed 750,000 pictures.



This is the first ever successful physics run using the track sensitive chamber and the picture above shows a  $4\gamma$  event recorded very early in the run. Each  $\pi^0$  decay produces two  $\gamma$ 's, so this event produced at least two  $\pi$ 's. The  $\gamma$ 's have a high probability of producing an electron-positron ( $e^+e^-$ ) pair within the heavy neon-hydrogen mixture; the  $e^+$  and  $e^-$  curve in the chamber's magnetic field in opposite directions because of their opposite electric charges.

## A DECADE AND A HALF OF SERVICE

Last Friday, 1 September, Mr E T Marner, aged 65, an Experimental Worker grade 3 in the Engineering Services Section, retired after working at the Laboratory for 15 years. What these bald facts do not reveal is the character of the person and his abilities.

Ted Marner earned the respect of everyone who came into contact with him. He had worked all over the Laboratory during his 15 years service having been a very early arrival on the site. He had been a member of the Heavy Gang, an overhead crane driver for a number of years, undertook a great variety of jobs in Engineering Services and for many years has repaired all the bicycles on the site. Perhaps one of the best of many compliments paid to him is that he is going to be very hard to replace.

His many friends and colleagues contributed to a farewell gift of a bicycle (complete with 'L' plates),



continued on page 4



## INTERNAL EVENTS

NIMROD LECTURE SERIES  
Monday 11 September  
11.30  
Conference Room, Building R1

Finite Mass Sum Rules and Inclusive Reactions

Dr D P Roy/Rutherford Laboratory

HEP DISCUSSION GROUP  
Wednesday 13 September  
11.00  
Conference Room, Building R1

Finite Energy Sum Rules for Inclusive Reactions

J Kwiecinski/Institute of Nuclear Physics - Cracow

NIMROD LECTURE SERIES -  
TEMPORARY CHANGE OF VENUE

Attention is drawn to the temporary change of venue for the Nimrod Lectures, as the Lecture Theatre is fully booked until Friday 22 September inclusive for the Theoretical Physics Summer School.

## NIMROD SCHEDULE

CYCLE 11 29 8 72 - 19 9 72

MACHINE PHYSICS

HIGH ENERGY PHYSICS

<u>Team</u>	<u>Beam</u>	<u>Experiment</u>	<u>State</u>
Cambridge University RHEL ✓	K13C	Associated Production Cross Sections	Data
Imperial College Southampton University ✓	$\pi^7$	Studies of $\eta$ $\omega$ and $A_2$	<del>Data</del> <i>Parasitic</i>
Surrey University Birmingham University RHEL	$\pi^{10}$	Total Cross-Sections for Pions on Light Nuclei	Data
RHEL/UCL/Berkeley/ Torino .	K9	4 GeV/c $\pi^+p$ interactions in track sensitive target	Data
Glasgow University RHEL	$\pi^9, N_4$	Polarisation Measurements in $\pi^-p$ Charge Exchange	Parasitic



## SOCIAL NEWS

### ● ANGLING COMPETITIONS

The Civil Service National Angling Competition will take place this year at Caversham Bridge, Reading on 6 October.  
If you are keen on angling and a member of the Rutherford and Atlas Recreational Society you can take part in this competition.

Also the Rutherford and Atlas Annual Open Angling Competition, to be held at Newbridge, on the Thames on Saturday 30 September.

For further details on both the above events, contact P Craske, Ext 232.

### FOLK CLUB

Remember, Remember the Eighth of September

WHY?

Because our Folk Club re-opens with "THE TRIADS"

8 pm - R22 Coffee Lounge - All welcome, bring your family and friends.

### CHRISTIAN FELLOWSHIP

Captain Hiscock of the Salvation Army at Abingdon will be visiting the Laboratory on Friday 15 September.

All are welcome to come along at 12.30 pm in the R12 Conference Room.

## STOP PRESS

### MISSING EQUIPMENT

The following item of equipment has been reported missing:-

Wolf Hammer Drill - SRC No 14/4776, removed from Hall 3 Mechanical Workshop during the night of Wednesday, 6/7 September without permission.

Anyone with information on the present whereabouts of this item is asked to contact Mr J V Lawler Ext 578 immediately.

RUTHERFORD LABORATORY BULLETIN

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*Editor:* H F NORRIS

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



presented to him by Roy Tolcher, Head of Mechanical and Electrical Services.

Being a strong supporter and worker for the British Legion and a keen gardener, Ted will not be at a loss for something to do, and there is always that bike - he has promised to ride the whole length of the Ridgeway.

We would like to join with his many friends in wishing Ted Marner a long and very happy retirement - and not too many repairs to that bike!

#### LIBRARY NOTICE

A limited number of spare copies of the following report are held by the Library, R20, and are available on request.

BRACCI, E et al      Compilation of cross sections  $l-\pi^-$  and  $\pi^+$  induced reactions

Geneva, European Organisation for Nuclear Research, High Energy Reactions Analysis Group, May 1972.

#### FILM BADGE NOTICE

It is Period 10. Colour Strip - RED for  $\beta\gamma$  and fast neutron packs. Please check that you are wearing the current dosimeters and that all old ones are returned.

#### WEA CLASSES IN WANTAGE AND GROVE

The following classes will be held:-

At Icknield School, Springfield Road, Wantage

*Advanced Geology - starting Monday 25 September*

*History of North Berks - starting Tuesday 26 September*

*Understanding Society - starting Wednesday 27 September*

At St Mary's Convent, Denchworth Road, Wantage

*Modern European Literature - starting Thursday 28 September*

At Grove Further Education Centre

*Art Appreciation - starting Monday 25 September*

All classes start at 7.30 pm. Further information from Mrs M Richold, East Hendred 440 or AERE 4510, or from brochures available from the Public Libraries at Wantage or Grove.

#### MISSING EQUIPMENT

The following item of equipment has been reported missing from Building R34:-

Blue Lightweight Sack Truck - marked R34

Anyone with information on the present whereabouts of this item is asked to contact Mr J Langridge, Building R34, Ext 537.

#### OVERSEAS VISITS

Mr R G Fowler to Vienna, Austria, 10 - 17 September, to attend 2nd International Conference on Ion Sources.

Dr W S Chapman and Dr D Maden to Austria, 10 - 24 September, to attend the CERN Computing School at Pertisan.