



Rutherford
Laboratory

R(12), NDT(60,3), ISW(3500), ANGLE(60), YINT(60), DUMMY(84),
(6,3), N(4), FEN(1), ICH(1), AR
MMON/CFID/MFX(20,3), MEY(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(100,1), IX(100,1),
DY(100,2), JDX(4), JDY(4), IHS(4), IOV(2), IUN(2), ID(2), IDE
CF(16), IFS, NFS, FX, FY, JK, PIC, KPIC, NCDUNT, NBIN, MA, Y, UN
AXN, CTA, CTB, MX, MY, JA, JB, JC, JD, JE, JF, XF(20,3), YF(20,3),
MMON/CJACK/NSY(20,30), NMS(20), NDR(20), NSI(20), XA(20), YA
(20), BX(20), NSTI(20), NSI(20), INER(20), XN(20,30), AW(160)

25 December - 8 January 1973

bulletin

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Mr. A. Norris R.20.

DIRECTOR'S CHRISTMAS MESSAGE

In the closing months of 1972 two events occurred of great importance to the Laboratory.

First there came the decision that Britain should join with France and Germany as a full partner in neutron beam research at the Institut von Laue-Langevin in Grenoble. Negotiations have proceeded very well and apart from the dotting of a few i's and the crossing of a few t's, we shall be participating fully in this work as from 1 January 1973.

Secondly, Council decided in November that Nimrod with a new injector should continue in operation for at least the rest of this decade. From this assured base we can now start to plan for the 1980's. EPIC is one exciting possibility.

However, for the more immediate future, my wife and I would like to wish you and yours a very happy Christmas and a most fruitful New Year.

* * * * *

THE DEPUTY DIRECTOR SENDS CONGRATULATIONS

I would like to congratulate all who have been concerned with the Track Sensitive Target programme in the 150 cm bubble chamber. The system has taken 1,545,000 pictures since July and achieved 433,400 pictures in a period of 18 days during the last Nimrod cycle. This is an overall efficiency of 78.5% from Nimrod, K9 beam and the chamber. As one who exerted pressure in the past during troubled times, I am delighted to be able to offer my warmest congratulations following these excellent achievements.

AND WE ADD A FURTHER NOTE

Of the 1,545,000 pictures mentioned above, over one million were taken for Proposals 37 and 115, using the stainless steel framed target designed at this Laboratory. On completion of this successful run the chamber was warmed up so that a new plexiglas target from CERN could be installed and tested. This target had the same thickness windows as the other but they were cemented to a thick plexiglas frame. The main advantage of the all plastic target is that more of the chamber can be used; this design of target is also more suitable for use in the large bubble chambers now being constructed. After a short period of engineering tests the target began to be used for physics when it provided over 500,000 additional pictures for Proposal 37. When the chamber was finally warmed up this target had been successfully expanded over 664,000 times.

CHRISTMAS HOLIDAY LAST MAIL COLLECTION

The last delivery of Rutherford and Atlas mail to the Post Office will leave the Post Room, Atlas Laboratory at 11.00 hours on Friday 22 December. Mail reaching the Post Room after this time will not be taken to the Post Office until Wednesday 27 December.

SITE EMERGENCY TESTS

Recognition Test Sounding of the Site Emergency Klaxons will be carried out as follows -

1. The Klaxons will be sounded for a recognition test at 10.00 hours on Tuesday 2 January 1973.
2. Notice Boards announcing the sounding will be posted at all entrances to the site from mid-day Monday 1 January until after the test has been completed.
3. Any defective Klaxons which may be noticed during the test should be reported to Mr E. P.G. Lane Ext 270.

FILM BADGE NOTICE

Period 1 commences Monday 1 January. Colour Strip - PURPLE for Bγ and neutron packs. Six monthly TLD change for people with surnames commencing ABCD.

OVERSEAS VISITS

Dr P R Williams and Mr E W Fitzharris to the USA, 3-19 January for discussions at ANL BNL and NAL, on Bubble Chamber and Track Sensitive Target operations.

INTERNAL EVENTS

INFORMAL THEORETICAL PHYSICS MEETING

Wednesday 3 January

14.00-15.30

16.00-17.40

Thursday 4 January

09.45-11.15

11.45-13.15

14.15-15.45

16.15-17.45

Friday 5 January

09.45-11.15

11.45-13.15

14.15-15.45

16.15-17.45

The programme is as follows:-

Experimental Results from N.A.L and the I.S.R
Fragmentation Models of Multiparticle Production

C Rubbia/CERN

E Berger/CERN

Duality and Regge Approach to Inclusive Reaction
A Two-component view of Hadronic Multiparticle

D P Roy/RHEL

Final States

H Harari/Weizmann Institute

Dual Models

P Goddard/Durham

Black Holes

D Lynden-Bell/Cambridge

The $\pi\pi$ Interaction

J L Peterson/Nordita Institute

Gauge Theories of the Weak and Electromagnetic
Interactions

J C Taylor/Oxford

Inclusive Neutrino Interactions

D Perkins/Oxford

High Energy Neutrino Physics

C H Llewellyn Smith/CERN

ALL LECTURES WILL BE HELD IN THE LECTURE THEATRE.

FILM SHOW

Wednesday 3 January

12.40

Thursday 4 January

13.15

Lecture Theatre

Winter Driving - 18 minute colour film.

Christmas will soon be over and January 1973 with us. January and February, are usually the two worst months of the year for the motorists. This film, photographed in Germany points to the hazards of rain, fog, ice and snow. It shows how sensible motorists can ensure that their cars and their driving standards are fit to cope with all the problems of the winter road.

PLEASE DO NOT ENTER THE LECTURE THEATRE ON THURSDAY UNTIL THE MORNING SESSION OF THE THEORETICAL PHYSICS MEETING HAS ENDED.

NIMROD SCHEDULES

CYCLE 16 12 12 72 - 2 1 73

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 Univ	π^7	Studies of η ω and A_2	Data
Bristol University/ Southampton University/ RHEL	K15	π^\pm Differential Cross-Sections	Setting up

CYCLE 17 2 1 73 - 23 1 73

MACHINE PHYSICS

HIGH ENERGY PHYSICS

<u>Team</u>	<u>Beam</u>	<u>Experiment</u>	<u>State</u>
BRISTOL UNIVERSITY/ SOUTHAMPTON UNIVERSITY/ RHEL	K15	$\pi^\pm p$ Differential Cross-Sections	Data
GLASGOW UNIVERSITY/ RHEL	π^9	$\pi^- p$ Differential Cross-Sections	Data
IMPERIAL COLLEGE/ SOUTHAMPTON UNIVERSITY	π^7	Studies of η ω and A_2	Data
CHURCHILL HOSPITAL/ BART'S MEDICAL COLLEGE/ RHEL	π^{11}	Radiobiological Experiments	Data

END OF THE YEAR MESSAGE FROM
THE EDITOR

Once again it is my privilege and pleasure to thank all those who have assisted in the production of the Bulletin during the last twelve months.

The 'New Look' Bulletin has just passed it's first birthday. Contributions have increased as is apparent by the number of full issues during the year and my first thanks go to all those who have made this possible by providing basic material or complete articles. The success of the new Bulletin can perhaps be gauged by the increasing demand for copies both from inside and outside the Laboratory. In the last issue for 1970 I noted that the weekly print order had risen to 850 copies; the figure now stands at 1100 per week.

Whatever the demand the production does rely on the help and co-operation of a number of people and here I would like to record my thanks to the 'girls' of the typing centre who have dealt with the weekly rush and, the last minute editing often carried out whilst the copy is being typed.

My thanks also go to Gordon, Bill and Jean of the Office Services Section who make the plates and print the Bulletin, Mike and Reg of the Photographic Section for rushed prints and lastly to the Post Ladies and Messengers for distributing the copies each week.

May I conclude by wishing all readers a Merry Christmas and a very Happy New Year. 1973 may be the start of an EPIC decade!

RUTHERFORD LABORATORY BULLETIN

Published by the Scientific Administration Group

Editor: H F NORRIS

Deadline
for
Insertions

GENERAL & SOCIAL NEWS

INTERNAL & EXTERNAL EVENTS

Tuesday 1600

Wednesday 1200

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

SOCIAL NEWS

MODEL RAILWAY CLUB

At the recent 'get together' it was decided to form a model railway club and the first proper meeting will take place at 12 45 on Tuesday 2 January 1973 in the Recreational Society's hut (in the music room) opposite the cooling towers.

The subject for this meeting is "How to construct model railway and landscape modelling". An interesting programme is being planned for the future and new members, beginners or old hands, are all welcome. For further information ring Ray Roberts on Extension 254.

RECORD SOCIETY

Tuesday, 2 January 1973 at 12 40 in the Lecture Theatre.

Henry Mancini and His Orchestra Plays.

A selection of tunes played by this very popular orchestra such as 'Mr Lucky', 'Moon River', 'Pink Panther', 'Misty' etc.

CHRISTIAN FELLOWSHIP

Friday, 29 December at 12 30 in the Conference Room R12. Ray Powell will be leading a Bible Study on the "Five Steps to Heaven", All are welcome.

Friday, 5 January. Ben Kingdon will be leading the Fellowship's first prayer-meeting in the New Year. All are welcome to come along to the Conference Room R12 at 12 30.

HORTICULTURAL SOCIETY LECTURE - ADVANCE NOTICE

We present a double interest evening on 9 January as we are fortunate in having Miss M G Hodgman the Oxford Horticultural Adviser to talk to us on "Photography in the Garden". The lecture commences at 19 30 and tickets will be available from Roy Brabben R20, Valerie Goodwin R1 and the Editor a few days beforehand, at 15p which includes refreshments. So if your interest is photography or gardening come along.

SOCCER SEVEN-A-SIDE CHALLENGE TROPHY

There was little to enthuse about in the second of the quarter finals of the Rutherford Challenge Trophy in which AERE 351 defeated Transport by 4 goals to nil. The fact that the home team were only able to field six of their regular line up obviously in the end had its overall effect on the final result.

Transport were unlucky not to take an early lead when a powerful shot from Alan Tinson rebounded off the foot of the upright with the AERE keeper well beaten. Several minutes later it was Transport's turn to have a let off when Phil Lawrence was brought down in the area and from the resultant spot kick Bob Strong sent his shot the wrong side of the post.

In several 351 raids Ray Smith the Transport keeper proved his worth with some outstanding saves, in fact it was mainly due to his efforts that kept his side in with a chance as the half time came up with no score.

Within three minutes of the resumption 351 had put themselves ahead. Lawrence worked his way through, found Colin Butler in an unmarked position and the AERE man made no mistake. Transport hit back and a Dennis Stock/Alan Tinson move created an opening from which Pete Wilbourne had a shot cleared off the line.

Midway through the half Lewson laid on a perfect pass from which Strong made amends for his penalty miss to score a fine goal to put the visitors two up. Transport tried hard to get back into the game but the odds were against them and with the game drawing to a close Transport began to tire and 351 netted twice more through Lewson and just on the final whistle Strong who got his second and his side's fourth.