



Rutherford
Laboratory

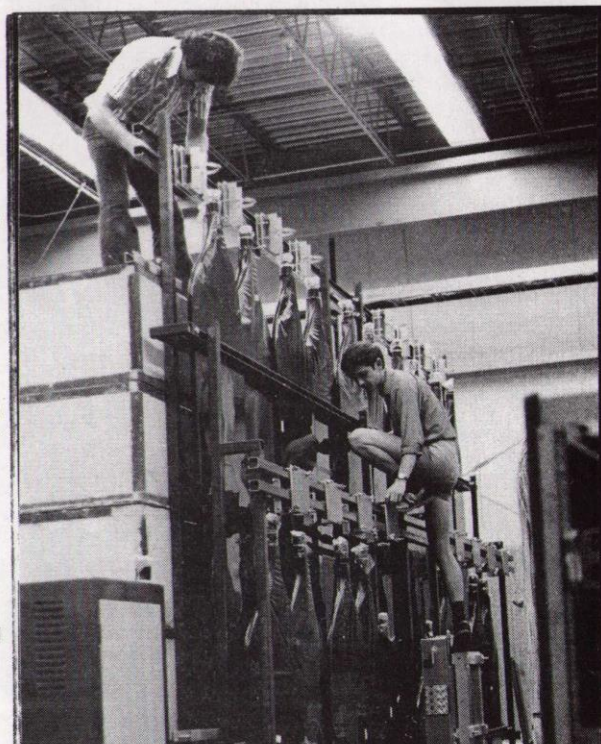
19 November - 3 December 1973

bulletin 35

MUON SCATTERING EVENTS OBSERVED BY OXFORD GROUP AT NAL

The muon facility constructed jointly by Chicago, Harvard and Oxford Universities is now assembled and ready to take data with the muon beam at the National Accelerator Laboratory, Batavia, Illinois. The muon beam, of energy up to 150 GeV, will probe the internal structure of the proton and neutron. The Rutherford Laboratory built the trigger hodoscopes for the Oxford Group and also a superb (in the words of Norman Booth, the Oxford team leader) piece of apparatus to map the magnetic field of the large spectrometer magnet used to analyse the scattered muons and the other particles produced in the collisions (see the Bulletin 28, 28 Aug-11 Sept 1972).

The picture shows Phil Burton and Ian Kirkbride of the Oxford team assembling one of the hodoscopes, the one used to veto halo muons. The scintillation counters were assembled at RHEL, while the supporting framework was constructed on site by the Oxford team. The high energy physics community is eagerly awaiting the results from this experiment; it should answer many fundamental questions about the internal structure of the proton and neutron, and to what extent the virtual photon behaves like the strongly interacting particles we know.



While awaiting the commissioning of their liquid hydrogen/deuterium target, scheduled for November, the physicists have tuned up their experiment with a beryllium target and have already observed the deep inelastic scattering of incident muons, and in some events, several particles produced.

RENAMING OF SRC LABORATORIES

Extract of SRC Notice dated 7 November 1973.

The Secretary of State for Education and Science, Mrs Margaret Thatcher, today visited the Radio and Space Research Station to attend a small ceremony at which she unveiled a plaque commemorating the change of name of the Station to The Appleton Laboratory.

The new name has been chosen in view of the very close connection over a long period with the work of the Station of the distinguished physicist, the late Sir Edward Appleton, CBE, KCB, FRS, who was also Secretary of the former Department of Scientific and Industrial Research from 1939 to 1949.

At the same time, the Science Research Council has agreed that the Rutherford High Energy Laboratory and the Daresbury Nuclear Physics Laboratory should in future be known as the Rutherford Laboratory and The Daresbury Laboratory, respectively.

These name changes take effect immediately and are in line with the Council's policy to make use as widely as possible of the expertise which is available in the laboratories.

No changes in name are contemplated for the Royal Greenwich Observatory, the Royal Observatory, Edinburgh, or the Atlas Computer Laboratory.

INTERNAL EVENTS

HIGH ENERGY DIVISION PROPOSAL TALKS

Monday 19 November
14.30
Lecture Theatre

Proposal No 135: "A study of the reaction $\pi^+p \rightarrow n + \geq 2$ charged particles using slow neutron trigger".

Birmingham Univ/Westfield College/Tel Aviv Univ/RL

Proposal No 136: "A proposal to measure polarisation in K^+n elastic and charge exchange scattering".

Queen Mary College London/RL. The talk will be given by Professor D V Bugg (QMC)

NIMROD LECTURE SERIES

Monday 19 November
11.30
Lecture Theatre

"Recent Progress in Dual Models"

Dr D Olive (CERN)

RECORD SOCIETY

Tuesday 20 November
12.40
Lecture Theatre

"Mantovani's Golden Hits"

HEP SEMINAR

Wednesday 21 November
11.00
Lecture Theatre

"S-channel Structure of Multi-Regge Amplitudes"

J Weis (Univ of Washington & CERN)

SEMINARS IN COMPUTING

Friday 23 November
11.00
Lecture Theatre

"Polygraphics - yet another graphics system"

J W E Lewis (Atlas)

The Polygraphics system will be discussed with reference to applications and some of its features will be compared to other available systems. Example of both still and cine output will be shown.

NIMROD LECTURE SERIES

Monday 26 November
11.30
Lecture Theatre

" $\pi^-C^{12} + 3\pi C^{12*}$ at 6 GeV/c."

Prof L Holloway (RHEL & Univ of Illinois)

HEP SEMINAR

Wednesday 28 November
11.00
RI Conference Room

"High Energy inclusive correlations"

B Webber (Cavendish Laboratory, Cambridge)

RUTHERFORD LABORATORY LECTURE

Thursday 29 November
15.15
Lecture Theatre

"Three Dimensional Engineering"

Prof E Laithwaite (Imperial College)

"All rotating electric motors are considered to be three dimensional objects. The working surface is a cylinder. Yet across this surface a magnetic field goes into the rotor or out from it, in other words the flux which performs this task is only one dimensional.

Having discovered the nature of two and three dimensional fields the possibility of new forms of electric motor become greater than at any time in history. A start on the task of designing such machines has already been made in respect of linear motors for high speed transport."

Professor ERIC LAITHWAITE has held the Chair of Heavy Electrical Engineering at Imperial College, London for the past 9 years. He has written 4 books and a vast number of papers on various aspects of electrical induction machines. In 1966, the Royal Society presented Professor Laithwaite with the S.G. Brown Award and Medal which was instituted to reward "contributions to the promotion and development of mechanical inventions". Since 1967 he has also been Professor of Applied Electricity at the Royal Institution.

EXTERNAL EVENTS

DARESBUURY LECTURE SERIES

Tuesday 20 November
14.00
Daresbury Laboratory

"Neutral Currents in Neutrino Reactions"

Dr G Myatt/Univ of Oxford

HIGH ENERGY PHYSICS SEMINAR

Wednesday 21 November
15.00
Mathematics Department
Royal Holloway College

"Non-Linear Chiral Lagrangians"

Prof K J Barnes/Univ of Southampton

ELEMENTARY PARTICLE PHYSICS SEMINAR

Thursday 22 November
14.30
Nuclear Physics Lab. Oxford

"The National Accelerator Laboratory and its Experimental Program"

Prof N F Ramsey/Harvard University

THEORETICAL PHYSICS SEMINAR

Thursday 22 November
16.15
Clarendon Laboratory, Oxford

"Scale Invariance and Nuclear Structure"

Dr I J R Aitchison

APPLIED MATHEMATICS SEMINAR

Friday 23 November
15.00
Dept of Mathematics
Royal Holloway College

"Measurements of Electron-Potassium Elastic Scattering with Spin Analysis"

Prof T M Miller/New York University

THEORETICAL PHYSICS SEMINAR

Monday 26 November
16.15
Queen Mary College

"Field Theory in Arbitrary Dimension"

Dr R Delbourgo/Imperial College

ELEMENTARY PARTICLE THEORY SEMINAR

Friday 30 November
14.20
Nuclear Physics Lab. Oxford

"The Bethe-Salpeter Equation in the Infinite Momentum Limit"

Dr T De/Oxford

COMPUTER SEMINAR

Monday 3 December
14.30
Atlas Computer Laboratory

"Computer Simulation of Galaxies, Semi-Conductors and Molten Salts"

Prof R W Hockney/Univ of Reading

NIMROD SCHEDULE

CYCLE 13 20 11 73 30 11 73

MACHINE PHYSICS

HIGH ENERGY PHYSICS

<u>Team</u>	<u>Beam</u>	<u>Experiment</u>	<u>State</u>
UCL/BRUSSELS	K19	HBC/TST K^-p Studies	Data
BIRMINGHAM/SURREY/RHEL	K17	Stopping Kaons	Beam Tuning
CERN/ORSAY/OXFORD	P81	Hadron-Proton Spin	Data
OXFORD	P71	Chamber Tests	Setting up/ Data
COUNTER GROUP B/ CAMBRIDGE UNIVERSITY	$\pi 12$	$\pi^- p \rightarrow K^0 \Lambda^0$ in the range 1.4 - 2.0 GeV/c	Beam Tuning
IMPERIAL COLLEGE/RHEL	$\pi 8$	Experiments on Narrow Bosons. χ^0 (958), S* and Cross-Section Measurements	Tests

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

FILM BADGE NOTICE

It is Period 12. Colour Strip BLUE for neutron packs and 8y films. Please check that you are wearing the correct dosimeters and that old ones are returned.

LIBRARY NOTICE

SLAC/LBL will operate a computer based information storage and retrieval system for HEP data commencing January 1974. The system will link proposals, preprints, reports and published articles reporting new experimental data. Details may be found on the Library notice board - Building R20.

SOCIAL NEWS

FAREWELL TO REG

On the 23 November we say farewell to Reg Studart who possesses a rather unique record on this site. He has worked here for 36 years interrupted only by war service, when he was a sergeant in the RAF. He started building the place in 1937, when he was a driver with the MOT and worked from 1946 to 1965 as a crane driver and transport driver with AERE. In 1965 he became Security Warden with the SRC and in 1970 he joined Nimrod Power Supplies and Ancillary Plant Group as an Experimental worker where he has worked since. Reg went to school at Chilton and is now leaving to take up a post with the Agricultural Research Station at Compton.

We are sure all his friends and colleagues will join us in wishing Reg every success in his new post.

HORTICULTURAL SOCIETY

The next two talks in the Rutherford Lecture Theatre will be:-
Tuesday 20 November - "Azaleas and Rhododendrons" by Mr M Clift (Waterers)
Monday 3 December - "The use of shrubs" by Mr B K Tattersfield
We start at 7.30 pm, all comers are welcome. Tickets at 15p each including refreshments from Committee members or Mr R S Brabben and Mrs V Goodwin. Please come along.

CALLING ALL ANGLERS

The Rutherford Laboratory Angling Championship is to be finished shortly. It will be held in two venues (weight to be aggregated) probably River Windrush at Newbridge and the Thames at Clifton Hampden. We have also received an invitation to a friendly match against British Rail. All matches will be on Saturday mornings. Will all those interested please give names, building, telephone numbers and details of Club membership to C F Halliday, Building R1 Ext 379 - before Wednesday 20 November 1973.

SEVEN-A-SIDE SOCCER

	Group 1		Group 2
November 21		ATLAS - R9	Ref D Lucas
" 22	APPS - AERE ADMIN		
" 23		C & A - AERE GO	Ref J Seymour

CHRISTIAN FELLOWSHIP

Friday 23 November. All are welcome to hear the first of a two-part tape-recorded testimony of Doreen Irvine. Until a few years ago she was involved in prostitution and drug addiction. Doreen Irvine then became involved in Satanism and Black Magic becoming the "Queen of Black Witches". She has spoken on radio and has recently written a book entitled "From Witchcraft to Christ" which tells of her dramatic conversion to Christianity. The second part of her testimony will be heard on Friday 30 November. Both meetings commence at 12.30 pm in the R12 Conference Room.

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HIGH ENERGY DIVISION
PROPOSAL TALKS
Friday 23 November
14.15
Lecture Theatre

Proposal No 137 "The Investigation of Virtual Photoabsorption of Nuclear Matter".
Dr W S C Williams/Oxford