



24 September - 8 October 1973

bulletin 31

HORIZONTAL CRYOSTAT FOR THE BASQUE EXPERIMENT AT TRIUMF, VANCOUVER

The technology of horizontal cryostats for beam handling elements is still at a stage of development where the advent of the latest model creates a flutter of interest among the devotees of superconducting magnets and their associated cryogenic environments.

Initial testing of the horizontal cryostat for the BASQUE 6TM solenoid was successfully completed at Oxford Instruments Limited at the end of August. The main features of this cryostat and the measured heat loads are as follows:

Warm bore diameter	100 mm
Warm bore length	1360 mm
Length of solenoid	1008 mm
Weight of solenoid	160 kg
Outer diameter of solenoid	220 mm
Inner diameter of solenoid	140 mm
Volume of liquid helium in helium vessel	100 litres
Volume of liquid nitrogen in nitrogen vessel	40 litres
Static helium consumption (no current)	0.9 litres/hour
Dynamic helium consumption (200A)	1.5 litres/hour

At the stated heat load on the helium vessel the cryostat is expected to have an endurance of about 40 hours between refills.

The complete system comprising the 6TM solenoid in its cryostat with the associated vacuum, equipment, power supplies and instrumentation will be shipped out to the Triumf Laboratory in Vancouver, Canada, in early March 1974. It will be employed to precess the spin of the polarised 500 MeV proton beam in an experiment upon which a team from AERE and Universities in the UK will be collaborating with colleagues from the Canadian Universities of British Columbia and Victoria.

RUTHERFORD LABORATORY LECTURE

The next lecture in this series will be 3.15 pm on Thursday 4th October in the Rutherford Laboratory Lecture Theatre.

Dr T Mulvey, Professor of Electron Physics, University of Aston will give a talk entitled:

ELECTRON MICROSCOPY - A MEETING POINT OF SCIENCE AND TECHNOLOGY

Summary

The invention of the electron microscope took place in the face of four major criticisms.

1. By scientists who said it was not physically possible.
2. By technologists who said it was not technologically feasible.
3. By biologists and materials scientists who said it wasn't necessary.
4. By industrialists who said there was no market for it.

The remarkable development of the instrument, the disarming of the critics and its enthusiastic adoption today in many diverse scientific disciplines will be discussed in broad terms.

For Your Diary: The next talk will be on Thursday 1st November, when Dr J A Saxton will talk about the work of the Radio and Space Research Station.

PHYSICS EXHIBITION

It has been decided by the Council of The Institute of Physics that the Physics Exhibition should be discontinued. The next exhibition provisionally arranged for 1975 will not now take place.

FILM BADGE NOTICE

It is Period 10. Colour Strip BROWN for $\beta\gamma$ films and neutron packs. Please check that you are wearing the correct dosimeters and all old ones are returned. Please inform Mrs Coates, R20, ext 430 if you need a $\beta\gamma$ holder.

INTERNAL EVENTS

HEP SEMINAR
Wednesday 26 September
11.00
RI Conference Room

"Highlights from Aix-en-Provence"

G Ross/RHEL

HEP SEMINAR
Wednesday 3 October
11.00
RI Conference Room

"Building Multiperipheral Model Backwards"

R Peccei/RHEL

RUTHERFORD LABORATORY
LECTURE
Thursday 4 October
3.15
Lecture Theatre

See page 1 for details.

NIMROD SCHEDULE

CYCLE 10 17 9 73 - 9 10 73

MACHINE PHYSICS

HIGH ENERGY PHYSICS

<u>Team</u>	<u>Beam</u>	<u>Experiment</u>	<u>State</u>
RHEL	$\pi 11$	Beam Studies & Irradiation	Data
BIRMINGHAM/SURREY/RHEL	K17	Stopping Kaons	Setting up
CERN/ORSAY/OXFORD	P81	Hadron-Proton Spin	Installation
OXFORD	P71	Chamber Tests	Installation
COUNTER GROUP B/ CAMBRIDGE UNIVERSITY	$\pi 12$	$\pi^- p \rightarrow K^0 \Lambda^0$ in the range 1.4 - 2.0 GeV/c	Installation
IMPERIAL COLLEGE/RHEL	$\pi 8$	Experiments on Narrow Bosons. $X^0(958)$, S* and Cross Section Measurements	Installation
BRISTOL/RHEL	K15	$\pi^+ - p$ Differential Cross-Sections	Data

RUTHERFORD LABORATORY
TELEPHONE DIRECTORY

A new internal telephone directory is being prepared and will be published during the next few weeks. Details of any amendments/alterations to the present directory which have not yet been notified should be recorded on the amendment form on page 15 of the directory and the completed form sent to the Accommodation Officer, Building R1, as soon as possible.

Telephone directory alteration as from 20 September 1973.

Amend

Davies Dr JD	delete	6158 Lab 4A	add	521	RI	16A
Gibbs A	delete	6322				
Holmes M J	delete	6189 1.44	add	464,6206	RI	2.40
Parsons Dr ASL	delete	6263 RI	add	407	R25	2.34
Norton H	delete	Oxford 48094				
Sharp P	delete	*	add	6242	RI	1.47
Water R J	delete	Water & OPs	add	Waters & RESM		

Add

Whittle D M	319	R12	Lab 19	NBRU
Crennell Mrs K	511	AL	47	AL
Lobb Dr D E	407	R25	2.34	HEP CG

WANTED FOR LASER WORK

Loan of (or usable scrap) HT DC Supply.

Edinburgh University Physical Chemistry Department would like a supply giving between 20 to 30 kV at 50 to 500 mA to power a laser. Please contact A G Armstrong, R50 Ext 458.

RUTHERFORD LABORATORY BULLETIN

Published by the Scientific Administration Group

Acting Editor: F HARDEN

Deadline
for
Insertions

GENERAL & SOCIAL NEWS

INTERNAL & EXTERNAL EVENTS

Tuesday 1600

Wednesday 1200

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

CHOLERA VACCINATION

In view of the epidemic in Italy and reported cases in other European areas, members of staff intending to visit Europe are advised to get in touch with the AERE Medical Department (Ext. 72-4156) about the need for vaccination. Since vaccine supplies are limited, vaccination can only be offered to people going overseas on official business.

OVERSEAS VISITS

Mr D A Gray to CERN 24-25 September - to attend meeting of the Advisory Machine Committee.

Dr P R Williams to SLAC & ANL, USA, 29 September-14 October, to study recent advances in Rapid Cycling Bubble Chamber Technology and to participate in first TST in the 12' Bubble Chamber.

Dr J J Thresher to CERN, 30 September-8 October to attend meeting Hyperon Experiment at SPS and to work experiment S72 on the ISR.

Dr D H Reading to Rijswijk, Netherlands 2-5 October to attend conference.

Messrs D A Gray, R Rees & Dr J D Lawson to Hamburg 7-12 October, to attend "e⁺p Study Week" at DESY.

SOCIAL NEWS

CHRISTIAN FELLOWSHIP

Friday 21 September. STOP PRESS. The meeting today will be held in R1 Conference Room NOT R12 Conference Room.

Friday 28 September. Derek Smaje of Building R18 will be leading a Bible Study entitled "Christ in the Book of Leviticus - Part II. All are welcome to come along to R12 Conference Room at 12.30 pm.

Friday 5 October. All are welcome to join in a time of prayer led by Jimmy Darius of R12. The meeting will be held in R12 Conference Room at 12.30pm.

AERE FOOTBALL CLUB DANCE

We are proud to announce the booking of "The Education" fresh from their recent success at the Rutherford Restaurant. The dance takes place in the AERE Social Club on Friday 28 September between 8pm and 1am. Bar extension applied for. Transport available from Wantage and Didcot.

Tickets 75p, Transport 25p, are bookable from David Mathews Ext 6144. Book early to avoid disappointment.

LETTER OF THANKS

Pat Tegg says goodbye to all her friends at the Laboratory that she was unable to see personally on Friday 14 September and to thank all for the lovely gift.