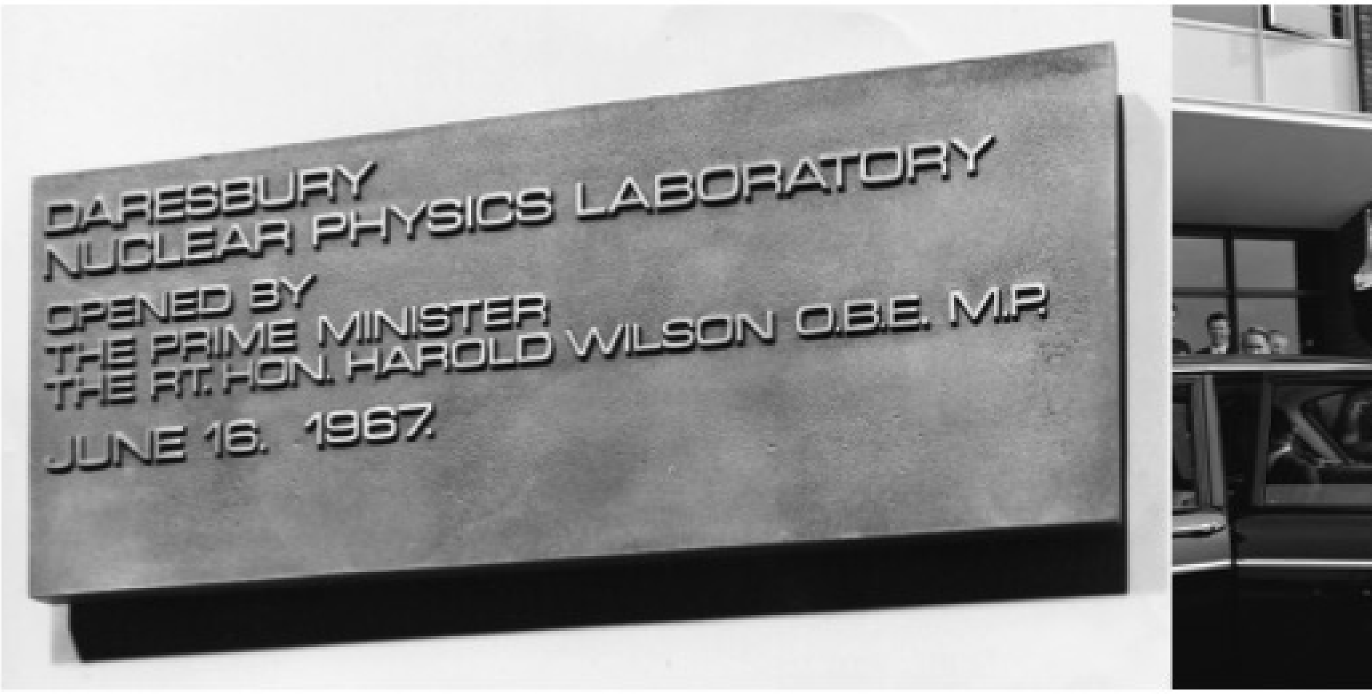
Presentation by Ian Munro in 2018 on the history of Synchrotron Radiation at Daresbury Laboratory

The Genesis of synchrot radiation research at Daresbury in the UK

Ian Munro
Daresbury Laboratory
University of Manchester

Harold Wilson Opening



Daresbury

The Letter

Atomic & Molecular Physics Group,
THE PHYSICAL LABORATORIES,
THE UNIVERSITY,
MANCHESTER, 13.

5th January, 1966.

Professor A. W. Merrison,
Department of Physics,
University of Liverpool,
LIVERPOOL.

Dear Professor Merrison,

I am writing on behalf of our Branch Committee, to ask you whether it would be possible for the Manchester Branch to hold their 1966 Summer visit at the Daresbury accelerator laboratories. Several of our Branch members have expressed interest in the accelerator and the work being carried out in the laboratories.

We have normally held our visits in July, but, of course, we would come at any time convenient for the laboratory staff. It has been suggested that there might be more to see if the visit were to be held on a day when the machine is shut down for maintenance. Would this be possible?

If you feel our visit will not cause much inconvenience, perhaps you could let me know what day, or days, would be suitable for the visit.

On a topic quite unconnected with the Institute of Physics— in the Molecular Physics Group here, we are hoping to extend our studies into the vacuum ultraviolet (from 2000 Å to 100 Å) and have some money available for equipment. One problem is to obtain an intense continuous source of radiation for excitation in this region.

Dr. [illegible] (from our Department) told me of some work he had come across when in Hamburg, concerned with the properties of the emission from centripetally accelerated electrons in a synchrotron. It sounds as though such emission might provide an ideal source of excitation for our experiments.

I am still waiting for more details from Dr. [illegible], and have at present little idea of the experimental problems involved in extracting such emitted radiation from a large accelerator.

However, I thought I would like to write to you now to let you know what we are thinking about, and to ask what you feel about making use of the Daresbury accelerator in this way, if the project should prove feasible. Has anybody else considered a project of this nature?

Yours sincerely,

I. H. Munro

I. H. MUNRO.

The Proposal

12th January, 1966.

Dear Dr. Munro,

We should be very pleased to see the Manchester Branch in Daresbury in July. If you like to suggest a few days we shall pick one out. We shall of course be very happy to offer you tea and buns.

On synchrotron radiation. There is no doubt that this is an extremely intense source in the region you mention. People have spoken for years about using it but nobody, so far as I know has done anything about it. [illegible] will certainly be able to tell you all about it but if you want to calculate yourself all the necessary theory is contained in a paper by Julian Schwinger in Phys. Rev. 75 1912 (1949).

attitude to such work at Daresbury is that if there is good physics in it I would be very enthusiastic.

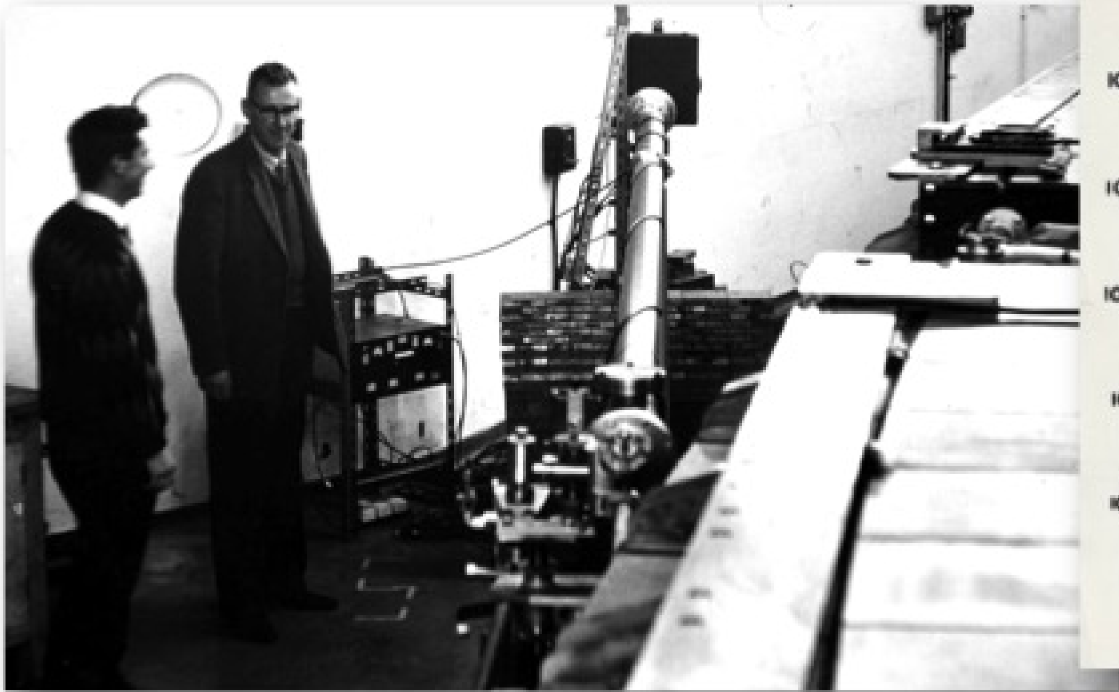
Yours sincerely,

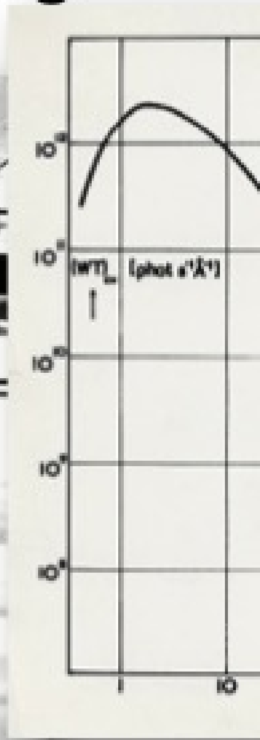
(A. W. MERRISON)

Dr. I. H. Munro,
Atomic & Molecular Physics Group,
The Physical Laboratories,
The University,
MANCHESTER, 13.

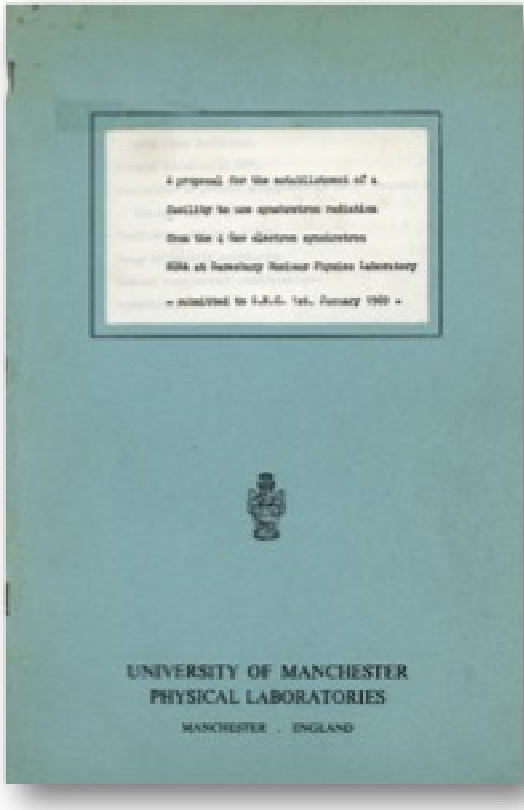
9

Data gathered for the funding

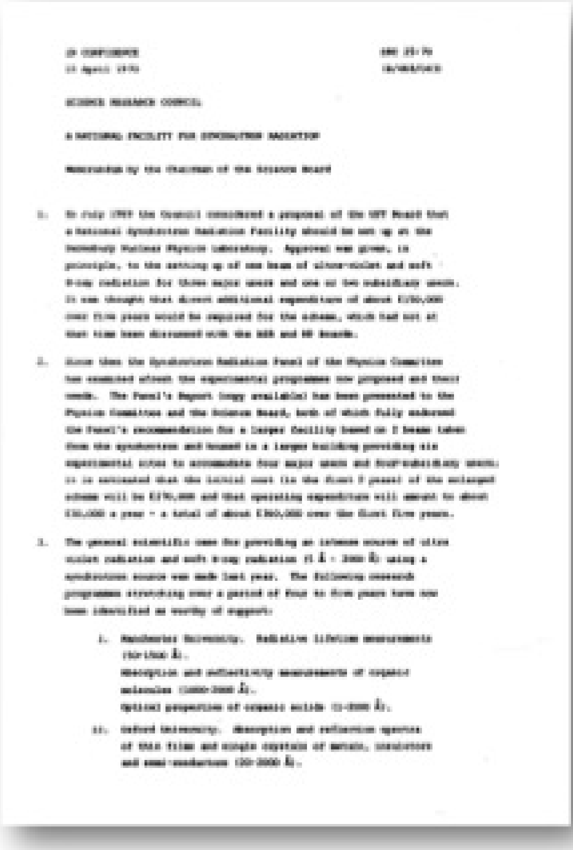




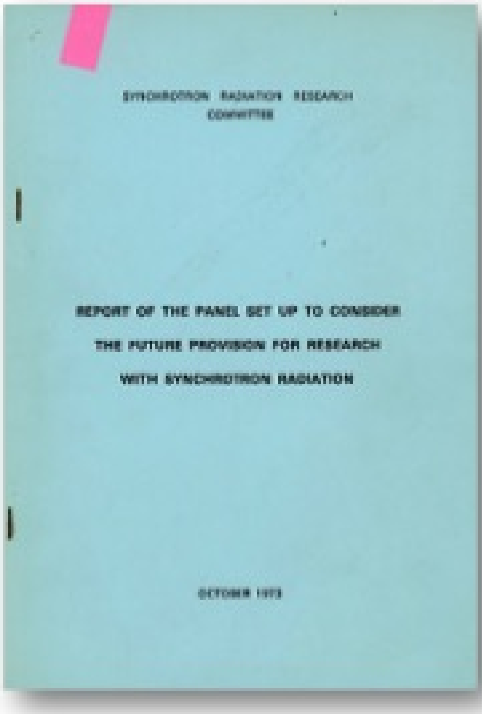
Grant Proposal



Approval

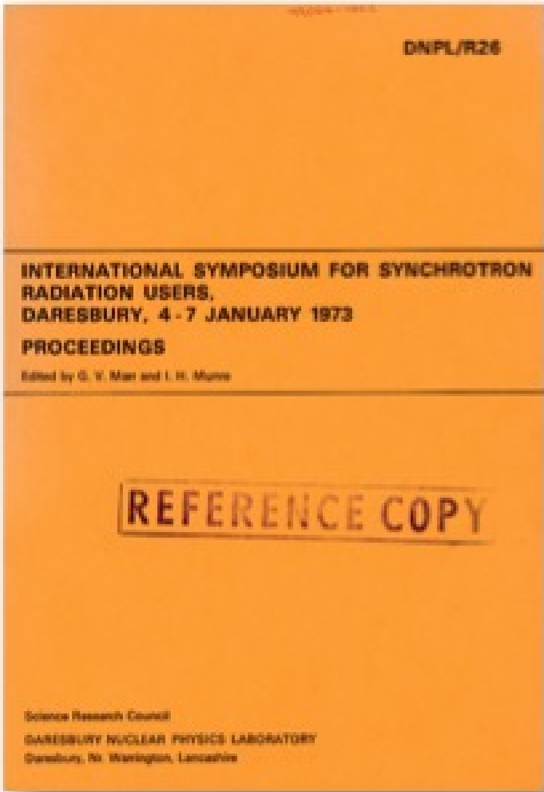


1973 - Collective study of Science programme



1973 – Chairman of SRC inspects

SRF Users International meeting


DNPL/R26

INTERNATIONAL SYMPOSIUM FOR SYNCHROTRON RADIATION USERS, DARESBURY, 4 - 7 JANUARY 1973

PROCEEDINGS

Edited by G. V. Marr and I. H. Munro

REFERENCE COPY

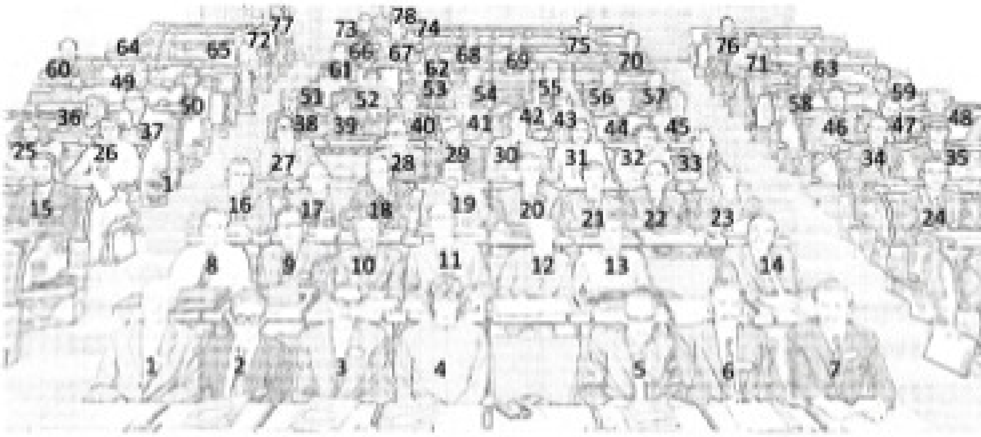
Science Research Council

DARESBURY NUCLEAR PHYSICS LABORATORY

Daresbury, Nr. Warrington, Lancashire

SRF Users International meeting

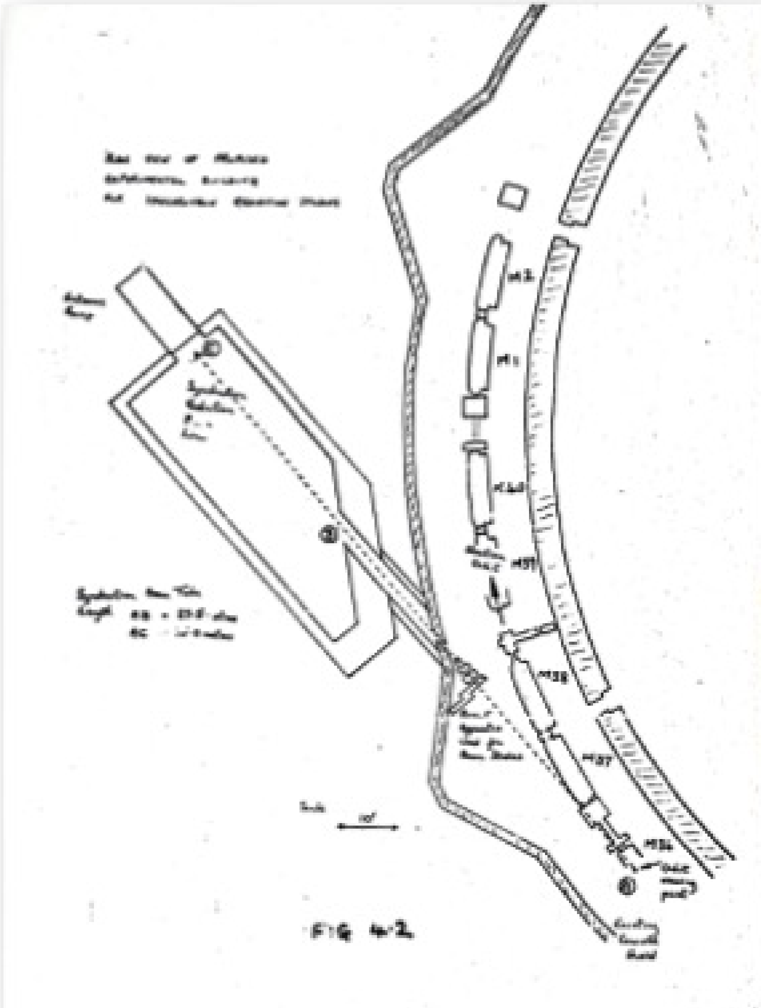
SRF Users Meeting – Guess Who



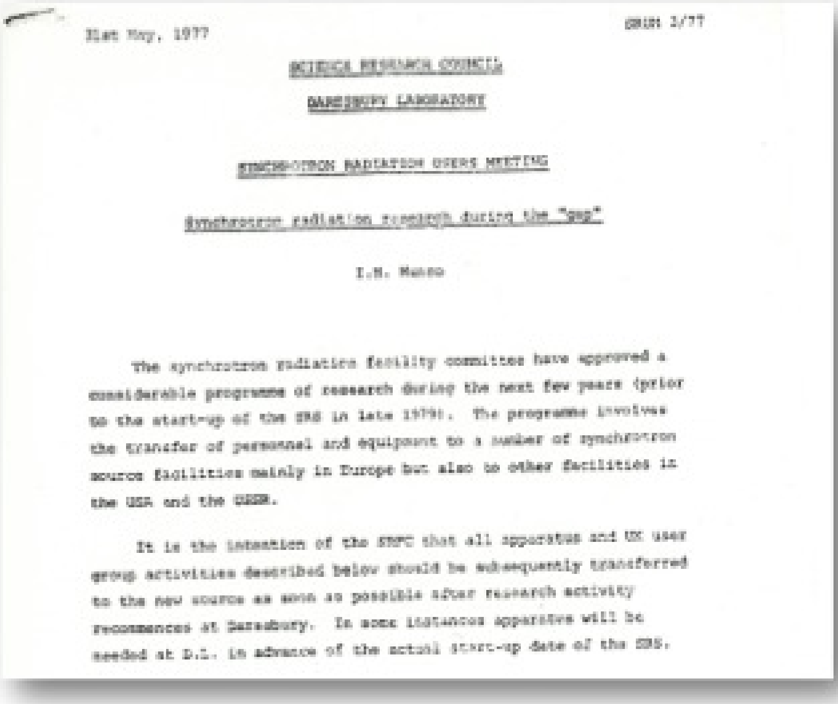
1. R. W. Ditchburn
2. Itzhak Steinberger
3. ?
4. Nick Webb
5. Bill Price
6. Keith Coding
7. Ian Munro
8. Bob Speer
9. Fred Brown
10. Michael Mansfield
11. ?
12. J.-P. Connerade
13. Pierre Dhez
14. Yves Farge
15. Michel Pouey
16. Christof Kunz
17. ?
18. ?
19. ?
20. Phil Burke
21. Bill Hayes
22. ?
23. Yvette Cauchois
24. Jim Samson
25. ?
26. Manolis Pantos
27. ?
28. Ernst Koch
29. Tony Potts
30. Ruprecht Haensel
31. Gwyn Williams
32. ?
33. Malcolm Howells
34. ?
35. David Creek
36. R. Lopez-Delgardo
37. ?
38. Antony Bourdillon
39. John Beaumont
40. T. Namioka
41. ?
42. Paul-Marie Guyon
43. Joe Berkowitz
44. Reg Garton
45. Peter McWhirter
46. Derek Fabian
47. ?
48. ?
49. Uhl Arndt
50. Wasi Faruqi
51. ?
52. ?
53. ?
54. ?
55. ?
56. Dave Lynch
57. ?
58. John West
59. Mervyn Lynch
60. Albert Franks
61. ?
62. ?
63. ?
64. ?
65. Geoff Marr
66. Doug Heddle
67. ?
68. Ray Houlgate
69. Jim Lang
70. John Forty
71. ?
72. Les Naylor
73. Scott Hamilton
74. ?
75. Peter Kay
76. ?
77. Joan Bordas
78. Vic Suller

1974 - The decision of the location of the SRS

SRF



1976 - Gap Years!



31st May, 1977 SRUM 3/77

SCIENCE RESEARCH COUNCIL

DARESBURY LABORATORY

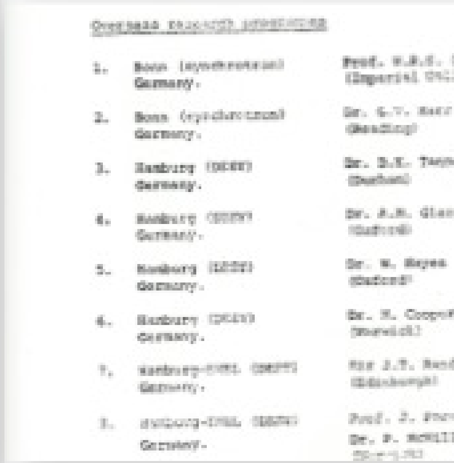
SYNCHROTRON RADIATION USERS MEETING

Synchrotron radiation research during the "gap"

I.H. Munro

The synchrotron radiation facility committee have approved a considerable programme of research during the next few years (prior to the start-up of the SRS in late 1979). The programme involves the transfer of personnel and equipment to a number of synchrotron source facilities mainly in Europe but also to other facilities in the USA and the USSR.

It is the intention of the SRFC that all apparatus and UK user group activities described below should be subsequently transferred to the new source as soon as possible after research activity recommences at Daresbury. In some instances apparatus will be needed at D.L. in advance of the actual start-up date of the SRS.



1. Bonn (synchrotron) Germany.
2. Bonn (synchrotron) Germany.
3. Hamburg (DESY) Germany.
4. Hamburg (DESY) Germany.
5. Hamburg (DESY) Germany.
6. Hamburg (DESY) Germany.
7. Hamburg-EMBL (DESY) Germany.
8. Hamburg-EMBL (DESY) Germany.

Can you spot the Garden shed?

DARESBURY NEWS

OUR MAN IN CALIFORNIA

The Only Paper published -1976

Small-angle scattering experiments on biological materials using synchrotron radiation

J. Bordas & I. H. Munro

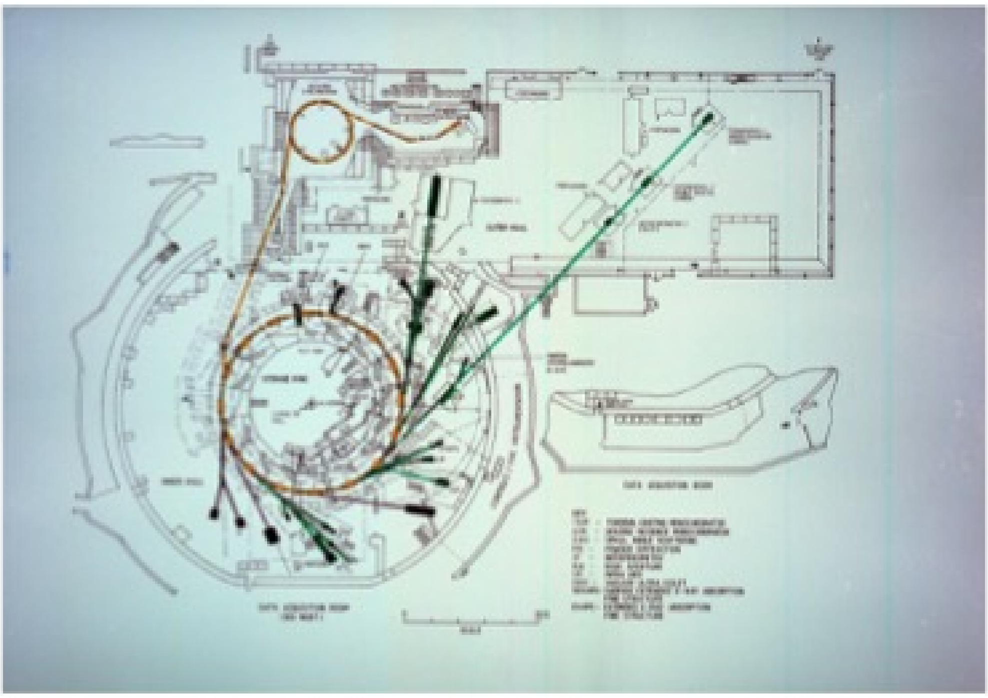
A. M. Glazer

Synchrotron radiation

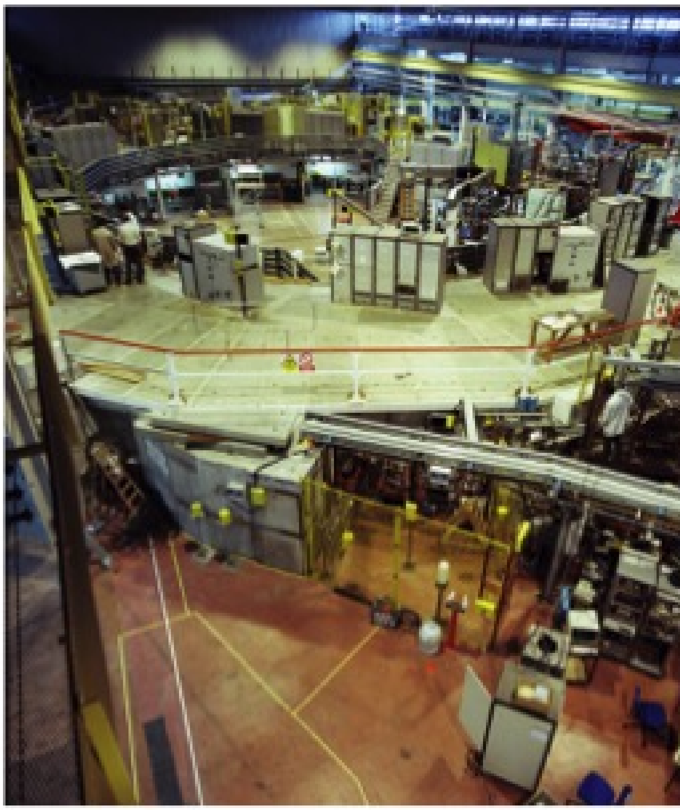
Extending energy—dispersive techniques

1977 – Staff

1980 - Layout of the Synchrotron -



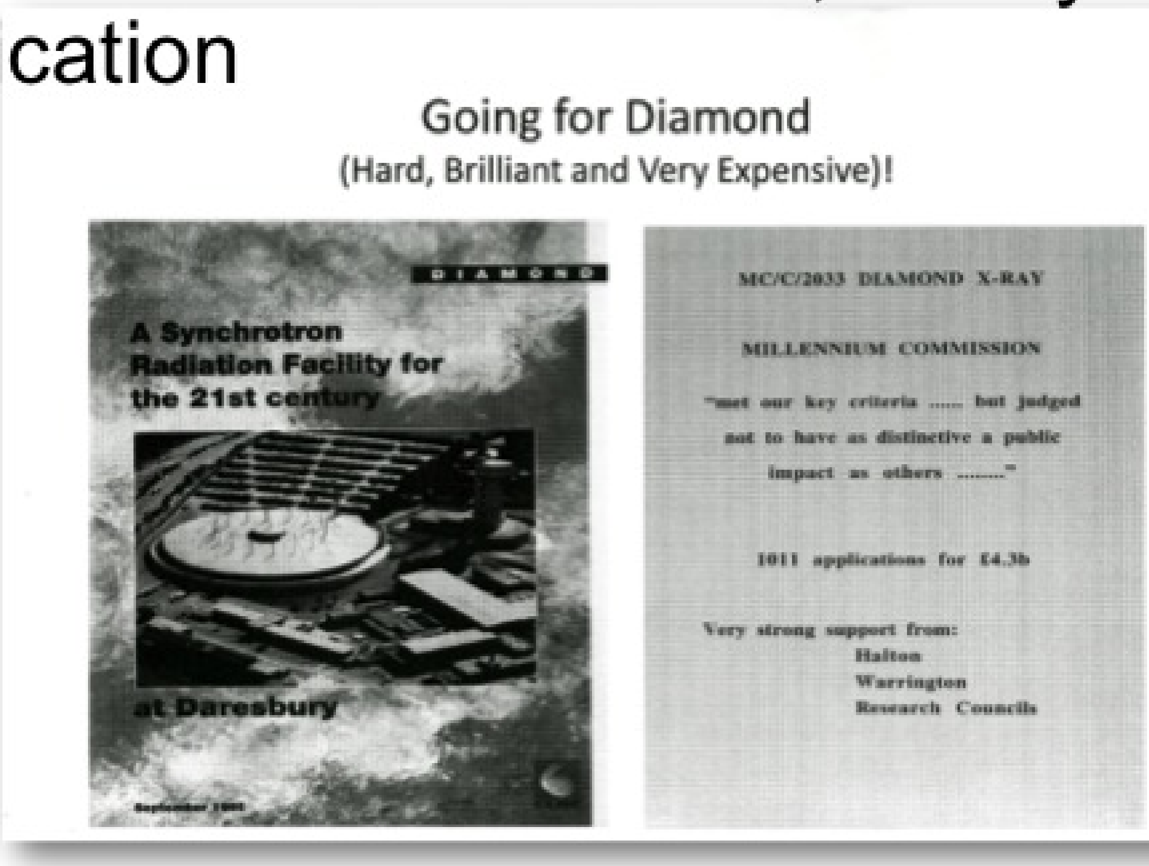
1985 – The facility



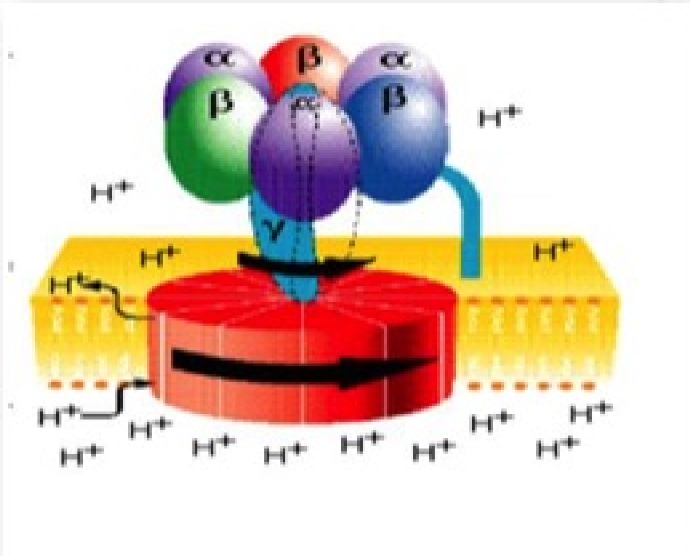
1991 – SRS User Meeting

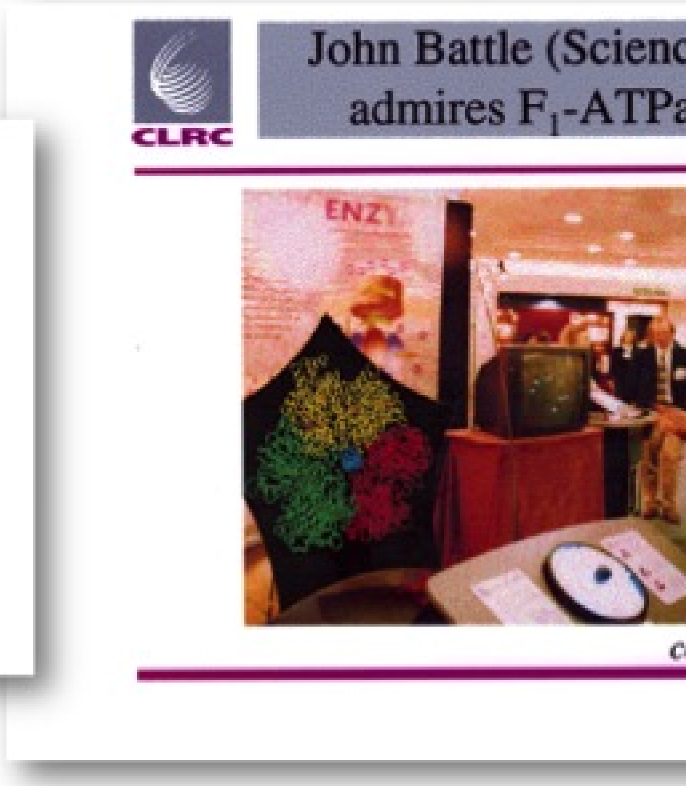
1996 – John Cadogan – Inspecting SRS

1996 – Bid for DIAMOND, lottery application

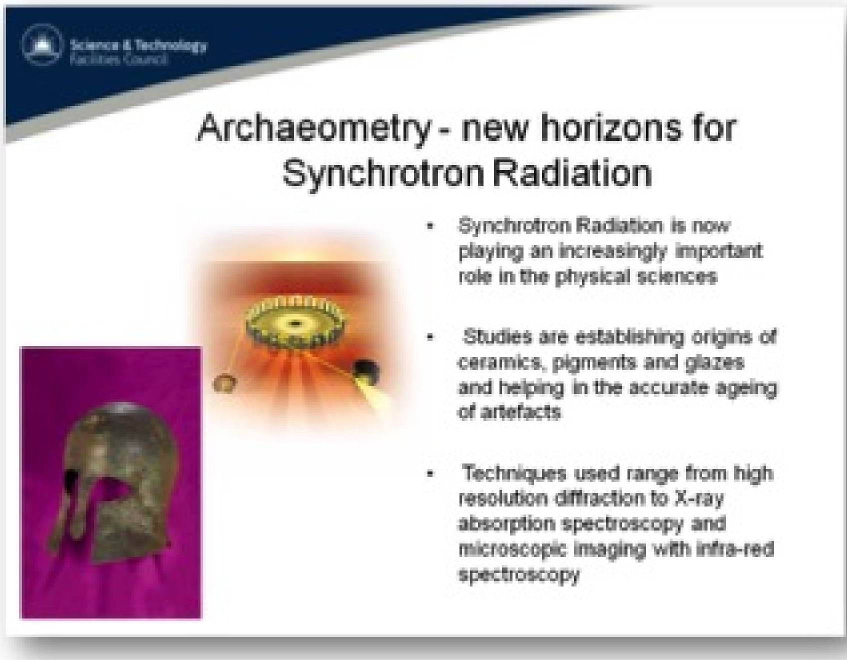


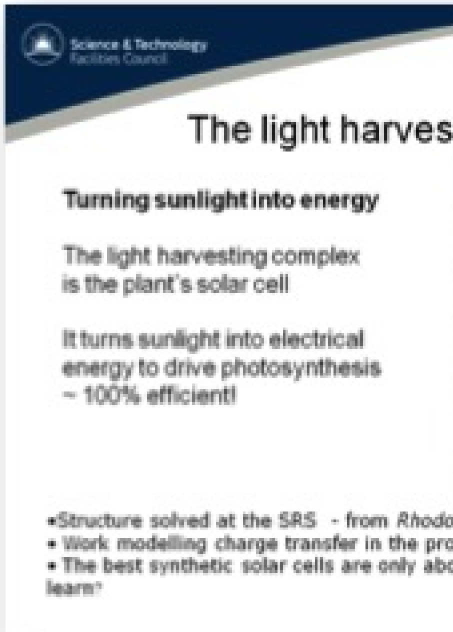
1997- The Nobel Prize for F1 ATPa Structure Using the SRS





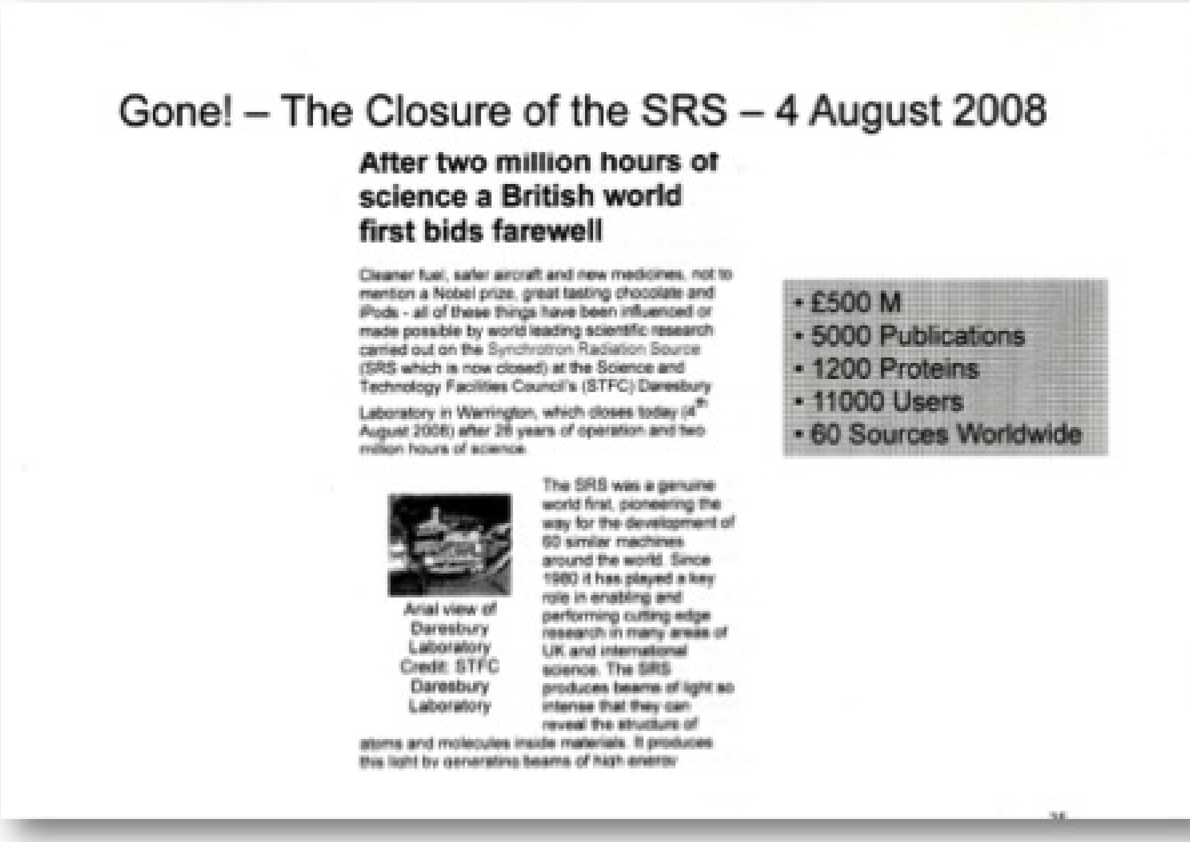
1998-2008 SRS operational… and achievements





2007 – Moving to 3rd Generation L Source

2008 – The SRS final countdown.



2008 - The Switch off ceremony

Spin offs Diamond / ESRF

Dipole Henge – the fossil remains SRS!!