

People and things

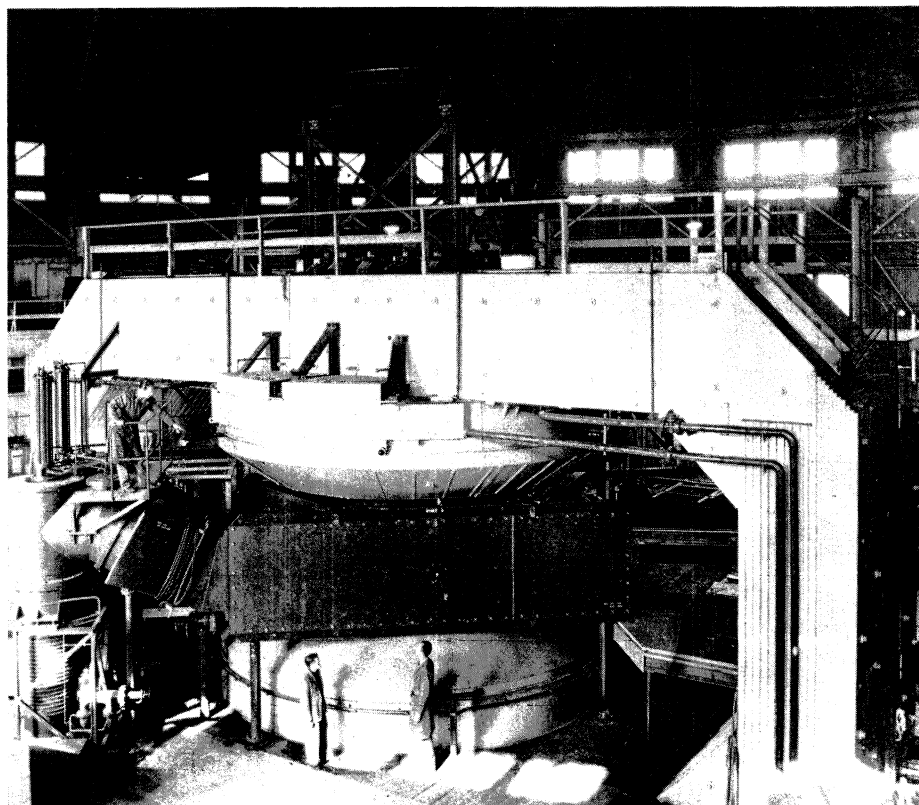
The 184 inch synchro-cyclotron built by E.O. Lawrence at Berkeley, photographed shortly after completion in 1946. Originally designed for 100 MeV protons, it accelerated deuterons to 200 MeV and was able to produce the newly discovered mesons in the late 40's. It was a prolific source of particle and nuclear physics results but has now dropped its physics role to become a medical facility for therapy and biological studies.

(Photo LBL)

Records at the ZGS

On 23 March the ZGS established a new record circulating intensity of 5.4×10^{12} protons per pulse passing the 4.1×10^{12} achieved in January 1975. The dramatic improvement was the result of using lower rate of field rise at injection, with the debuncher used to control the injected beam energy spread. Corresponding to the new peak intensity record was a new record 24-hour average circulating intensity of 4.6×10^{12} , compared to the previous 3.5×10^{12} . This increase in circulating intensity, combined with high extraction efficiencies using slow resonant extraction (see January 1976 COURIER) means that many more protons are now available to experimenters.

Another record performer in March was the 12 foot bubble chamber, where 708 000 pictures of 6.5 GeV/c negative kaons in hydrogen were taken. The chamber was double pulsed with the two pulses separated by 300 ms. Combined with 200 000 pictures of 12 GeV/c polarized protons in hydrogen taken at the end of February and 200 000 pictures of low energy antiprotons in deuterium being taken during April, the chamber will have logged 1.1 million pictures in a little over two months.



son (Iowa), J.H. Colvin (Texas-Austin), I.A. Getting (Aerospace Corporation), G. Goldhaber (Brookhaven), L.P. Gregg Jr. (First National Bank of Chicago), R.M. Johnson (Florida State), H. Koffler (Minnesota), B.D. McDaniel (Cornell), N.U. Mayall (Tucson), L.L. Merritt Jr. (Indiana), D.H. Miller (Northwestern), H.K. Nason (Monsanto Research Corporation), W.K.H. Panofsky (SLAC), H.D. Smyth (Princeton), G.A. Snow (Maryland), H.K. Ticho (UCLA), A.B. Weaver (Arizona), G.A. Webb (Carnegie-Mellon) and V.F. Weisskopf (MIT).

Some like it cold

The world's largest helium liquefier is to be built by CTi-Cryogenics in collaboration with Sulzer and to be installed at Fermilab before the end of 1977. CTi have also recently de-

livered a new refrigeration system to Brookhaven to be used in their development programme on superconducting power transmission lines.

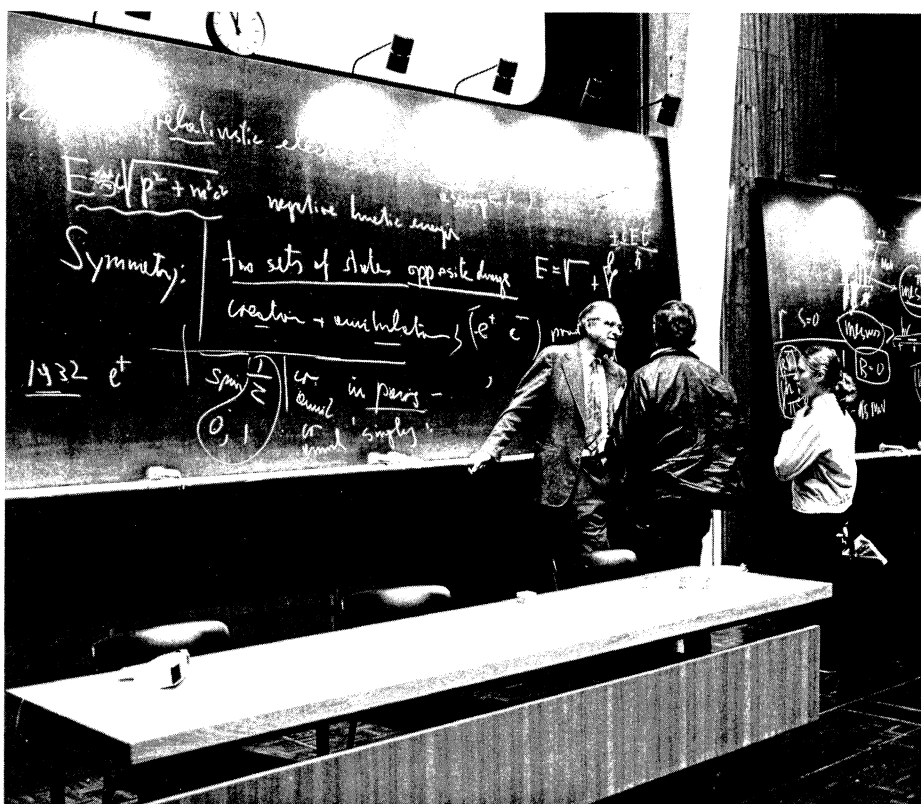
Appointments at DESY Scientific Council

At its April session, the Scientific Council of DESY elected Prof. V. Soergel (Heidelberg) as Chairman in succession to Prof. W. Paul (Bonn). The Council also decided to extend its representation by electing foreign members. A PETRA Machine Committee is being nominated in addition to the PETRA Research Committee. Secretary of the Research Committee is Dr. W. Bartel of DESY who may be contacted on all questions in connection with letters of intent or proposals for PETRA experiments. The first meeting of the PETRA Research Committee is planned for 1 June.

URA Board of Trustees

The Fermilab is operated by the Universities Research Association, Inc. of Washington D.C. — a consortium of 52 Universities involved in particle physics research. The Board of Trustees for the coming year is: M.G. White — Chairman (Princeton), M.L. Good — Vice-Chairman (Stony Brook), R.R. Carl-

Professor Weisskopf, who has received the Oersted Medal from the American Association of Physics Teachers, lectures to the vacation students at CERN during his regular summer visits. He is seen here in discussion after one of these lectures.



CERN 146.7.73

Conferences

28 June–9 July: A study on the uses of the Energy Doubler/Saver will be held at Fermilab. The study will concentrate on the new physics that will be opened up by the Doubler, on the modifications needed in the present experimental areas and what a new area, whimsically christened the 'Quark Area', might look like. Further information from Joe Lach at Fermilab, P.O. Box 500, Batavia, Illinois 60510.

12–16 July: The Third Study Group on High Energy Heavy Ion Physics will be held at Berkeley. There will be talks and discussion on the experimental and theoretical accomplishments of the past year and on the perspectives for the future in heavy ion physics covering the range 20 MeV/nucleon to 2 GeV/nucleon. Further information from N.K. Glendenning or L. Schroeder, Summer

Study Group, Lawrence Berkeley Laboratory, Berkeley, California 94720.

New accelerator column at Fermilab

During 'the March shutdown, a new accelerator column was installed in the Cockcroft-Walton pre-injector at the Fermilab. The new column has a larger aperture in the accelerating electrodes permitting more protons to be accelerated. First operation has boosted the current out of the linac from a previous high of 160 mA for normal operation to 215 mA. Aging of the ion source and column is expected to increase the current further with the goal of 240 mA for single turn (2.8 μ s) injection into the booster. This will enable over 5×10^{13} protons to be injected into the main ring with the 13 booster pulses needed to fill the main ring. The 8 GeV beam

extracted from the booster so far has been increased to 2.54×10^{13} protons.

Physics awards

Victor F. Weisskopf has been awarded the Oersted Medal — the highest award of the American Association of Physics Teachers. The medal is given for outstanding contributions in the teaching of physics and can rarely have had a more deserving recipient than Vikki Weisskopf who continues to give a great deal of his time and energy to the communication of science. His general lectures on physics draw large audiences wherever he goes. For example, for his recent talks on 'Modern Physics without Mathematics' at MIT, no lecture room large enough to hold all who wished to attend could be found. His written work on science is no less popular.

Professor E.C.G. Stueckelberg has been awarded the Max Planck Medal for 1976 for his basic work on field theory. Ernest Stueckelberg is presently Honorary Professor at the University of Geneva and also works in the Theory Division at CERN. He was born at Bale in Switzerland and this year has also been elected Honorary Member of the Swiss Physical Society.

Superconducting quad for ISR

A prototype superconducting quadrupole for a possible high luminosity insertion in the CERN Intersecting Storage Rings was successfully tested in a vertical cryostat in the first week of May. Already at its second quench the magnet produced a field gradient in excess of the design value (40 T/m in a 173 mm warm bore) and after a few further quenches reached the wire limit conditions. The maximum

A point of view

gradient was 47 T/m with a maximum induction of 6 T in the windings and a stored energy of 700 kJ. The magnet has to be fitted with 6-pole and 12-pole windings, presently under fabrication, and will then be inserted into a horizontal cryostat for final testing and magnetic measurements.

Soviet neutrino telescope

A vast detector is being installed under a mountain in the Caucasians to detect solar neutrinos. The hunt for solar neutrinos has been led by R. Davis of Brookhaven and the low rate that has been observed, compared to that calculated from the assumed burning cycle of the sun, has been one of the physics mysteries of recent years. The Soviet neutrino telescope has a first module covering 2000 m² composed of cubic tanks each holding 150 litres of liquid scintillator (white spirit). Eight modules are planned (four vertical and four horizontal) for the complete detector. A huge cave has been cut out to hold the tanks and it has been lined with special rock, which has low radioactivity, and steel. The neutrino telescope is part of an astrophysics research station of the Soviet Academy of Sciences. The world's largest optical telescope with a 6 m mirror and a radio-telescope are in the same region.

500 GeV at Fermilab

On 14 May protons were accelerated to 500 GeV in the Fermilab synchrotron for the first time. Beam was ejected to the neutrino area and bubble chamber pictures were taken at the new high energy. More next month.

From time to time we hope to carry individual comment on aspects of the high energy physics scene under the title of 'A Point of view'. This month we reprint (with kind permission) an editorial which appeared in the November 1975 issue of the fine American science journal 'Physics Today'. It is written by R.R. Wilson, Director of the Fermi National Accelerator Laboratory and relates to our opening article in this issue concerning a 'very big accelerator'. We could hardly choose anyone more appropriate to begin a series of 'individual comment' since we could hardly choose anyone more 'individual'. Bob Wilson has repeatedly distinguished himself by feats of imagination which take his thoughts beyond what is preoccupying most of his colleagues. The Fermilab itself is a monument to this vision. It is a pleasure to open our pages to his comment.

It has been a long-time ambition of scientists to build an international laboratory, one with participation from every nation in the world. In CERN, Centre Européen pour la Recherche Nucléaire (how it rolls off the tongue), we already have the prototype, the paradigm, the Platonian ideal for such a laboratory. When suggested some twenty-five years ago, CERN was regarded as the impossible dream of visionaries. How could those divisive nations ever come together and agree upon anything? But now it is taken for granted as the successful vehicle of European collaboration. France may pull out of NATO, but is it thinkable that she pull out of CERN? Nor can there be any question of the scientific value of CERN. Had Western Europe proceeded on narrow nationalistic lines, then each of the nations would have been swamped by the order-of-magnitude larger effort of the USSR

