

People and things

neutrinos is provided by having WIMPs in the sun's interior. WIMPs could also explain the observed pressure modes of the sun (C. Frohlich).

Gallium detectors are now being constructed to attack the solar neutrino question (see previous article). S. P. Mikheyev described limits on the flux of atmospheric neutrinos above 30 MeV measured at Baksan in the Soviet Union, one-third the level of the classic Brookhaven (chlorine) solar neutrino study. Other solar neutrino detectors were also described.

Roberto Peccei reviewed searches for new particles and exotica — superheavy atoms, quarks, magnetic monopoles, self-charge conjugate (Majorana) neutrinos, axions, etc.

The monoenergetic positron emission seen in heavy ion collisions at Darmstadt (see April 1986 issue, page 22) has been confirmed for a variety of nuclei, and there has been much discussion of a neutral 1.8 MeV particle. This was not seen in a beam dump experiment at the big Stanford linac.

Another talking point was Bjorken's contention that the Higgs mechanism in the electroweak picture (which accounts for the different behaviour of electromagnetic and weak nuclear forces) could be called a 'fifth force', rivalling the other forces in its complexity.

Finally, a whole day was given over to searches for violations of Newtonian mechanics ('who's afraid of Isaac Newton?' challenged Alvaro de Rujula), where there have been suggestions that geophysical gravity measurements can differ from those in the laboratory. Several new results have appeared, but the situation remains unsettled pending further results. Two new

experiments also plan to measure the pull (or push?) of gravity on antiparticles—positrons (W. Fairbank) and antiprotons at LEAR.

From G. Fontaine and L. Oliver

Louis de Broglie 1892-1987



Louis de Broglie

One of the few remaining links with the birth of quantum mechanics was broken when Louis de Broglie died in March at the age of 94. By the early 1920s, the photoelectric and Compton effects had demonstrated the particle properties of radiation, and de Broglie in his 1924 thesis 'Recherches sur la théorie des quanta' postulated that particles should have wave properties. Electron diffraction was discovered soon afterwards, and the stage was set for modern quantum mechanics. De Broglie received the physics Nobel Prize in 1929.

His message to the European Cultural Conference in Lausanne in 1949 called for the establishment of a Laboratory where European States could collaborate in research beyond the means of individual nations. From this germ of an idea CERN was to grow.

UK Institute of Physics Awards

Among the recipients of UK Institute of Physics Awards this year are two former chairmen of the UK Science Research Council (now the Science and Engineering Research Council); Lord (Brian) Flowers (1967-73) receives the Glazebrook Prize and Sir Sam Edwards (1973-77) the Guthrie Prize. In addition, Michael Green of London's Queen Mary College is awarded the Maxwell Prize for his major contributions to supersymmetric string theories, and Stephen Hawking of Cambridge the Paul Dirac Prize for his many outstanding contributions to cosmological theory.

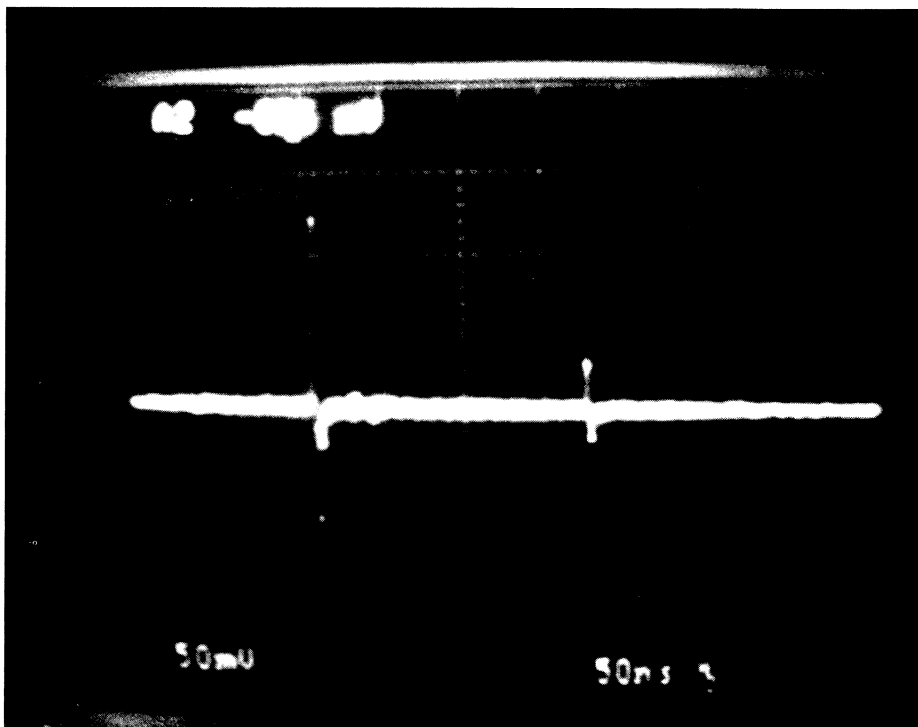
On 27 March, electrons (left) and positrons were brought together for the first time in the new SLC Stanford Linear Collider.

Fermilab reorganization

Following a five-year stint as Head of Fermilab's Accelerator Division J. Ritchie Orr has joined the Technical Support Section where he will be involved in the Laboratory's work for the proposed US Superconducting Supercollider (SSC). Helen Edwards, formerly Deputy Head of the Accelerator Division, becomes Head of the Division. John Peoples, formerly Head of the Antiproton Source Department, replaces Helen Edwards as Deputy Head of the Accelerator Division. Gerald Dugan leaves his position as Head of Accelerator Systems for the Antiproton Source to take on Peoples' former responsibilities. Charles Ankenbrandt becomes Head of the Accelerator Theory Department, while former Head Lee Teng joins the team designing a prototype medical proton-therapy accelerator for Loma Linda University Medical Center (see December 1986 issue, page 5).

IUPAP General Assembly

The XIX General Assembly of the International Union of Pure and Applied Physics (IUPAP) is to be held at the US National Academy of Sciences, Washington DC, from 29 September – 3 October. The theme of the scientific programme will be 'Physics in a Technological World', reflecting the IUPAP General Council's aim of emphasizing the role of industrial physics and improving relations between industrial and academic physics. This IUPAP event will be concurrent with the annual meeting of the Corporate Associates of the American Institute of Physics.



Stanford Collider milestone

On 27 March, 47 GeV beams of electrons and positrons reached the interaction point of the new Stanford Linear Collider (SLC) on the same machine pulse (simultaneously). The Mark II detector will shortly move into the beams, and work in the meantime has concentrated on reducing the beamspot size, increasing the positron intensity, and many other refinements to ensure stable and efficient operation.

Advanced accelerator course

The CERN Accelerator School is organizing in collaboration with BES-SY (the Berlin electron synchrotron radiation centre) the second of its biennial two-week courses on advanced accelerator physics. It will take place in West Berlin from 14-25 September. Further information from Mrs. S. von Wartburg, CERN Accelerator School, CERN, 1211 Geneva 23, Switzerland. Closing date is 1 June.

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Department of Nuclear Physics

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The appointment will be for a three year period in the first instance. Applications, giving details of qualifications and experience, and including the names and addresses of two referees, should be sent to

**The General Administrator,
Department of Nuclear Physics,
Keble Road,
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England**

to arrive by 13th May 1987

FACILITY OPERATIONS MANAGER

The Department of Physics at the University of Illinois at Urbana-Champaign has extended the deadline for applications for the Facility Operations Manager position in its Nuclear Physics Laboratory.

The successful applicant will be responsible for managing the day-to-day operation of our 100 MeV, 10 microamp, 100 % duty factor electron accelerator, its associated experimental facilities, and its technical support services. These services include an electronics shop, a machine shop, and drafting facilities. Our present accelerator is a 9-pass microtron. A proposal for the construction of a new accelerator at Illinois (450 MeV, 100 microamp, 100 % duty factor) is pending before the NSF.

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The starting date is Summer of 1987.

For full consideration, applications should be received by July 1, 1987. Interviews may take place prior to the applications deadline; no final decision, however, will be made until after that date.

For technical information, contact Professor Robert A. Eisenstein, Nuclear Physics Laboratory, University of Illinois at Urbana-Champaign, 23 Stadium Drive, Champaign, Illinois, 61820. USA. Telephone 217/333-3190.

To apply, please send resumes and the names of three references to

**Mr. Raymond F. Borelli (NFOM),
Department of Physics,
University of Illinois at Urbana-Champaign,
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in accelerator physics**

for non-italian applicants only. The duration of the fellowship is one year to be spent at the I.N.F.N. Laboratori Nazionali di Frascati, FRASCATI (Rome) Italy.

The salary will be 24 000 000 Italian lire gross per annum corresponding to 1 600 000 net Italian lire per month plus travel expenses from home institution to Frascati and return.

Applications are invited from accelerator physicists, to participate in the development programs on existing machines (350 MeV $e^\pm$ Linac and 1.5 GeV storage ring ADONE) and in the design of new facilities (superconducting R.F. cavities, single pass FEL experiments).

The application deadline is May 15, 1987.

Applicants should submit a curriculum vitae, including a list of publications and three letters of reference.

Send applications and requests for further information to:

**Prof. Sergio Tazzari,
Director of the
Laboratori Nazionali di Frascati,
Via E. Fermi,
40 — 00044 FRASCATI (Rome)
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The applicants will be engaged in activities connected with the preparation of the experiments in nuclear physics, and the activities of the development programs of the machines in the National Southern Laboratory (Catania).

The annual gross salary will be 24 000 000 Italian lire, corresponding to 1 600 000 net Italian lire each month, plus travel expenses from home institution to Laboratory and return.

The application deadline is May 15, 1987.

Applicants should submit a curriculum vitae, including a list of publications and three letters of reference.

Send applications and request for further information to:

**Prof. Nicola CABIBBO,
President National Institute
of Nuclear Physics (INFN)
Casella Postale 56
00044 FRASCATI (Rome) ITALY**

Phone: 06/940 3437

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UNIVERSITY OF OXFORD

Department of Nuclear Physics

REAL TIME PROGRAMMER

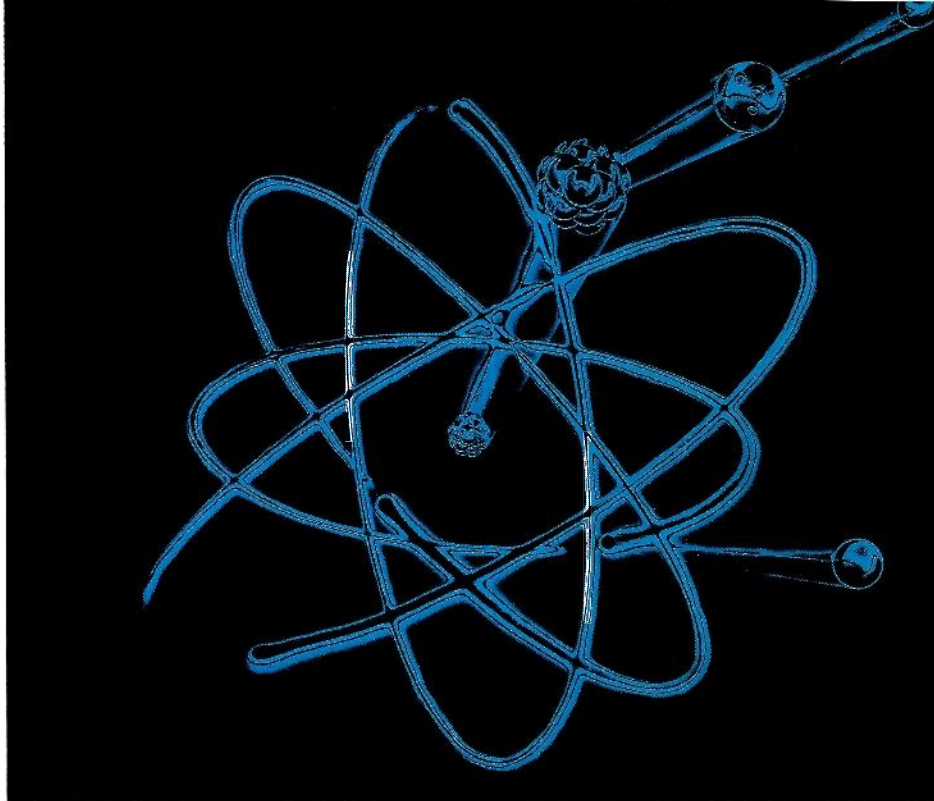
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The post will be for a three year period in the first instance, in Research Support Grade 1A. Applications giving details of qualifications and experience, and including the names and addresses of two referees, should be sent to

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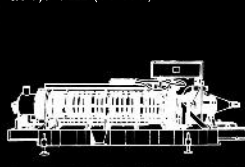
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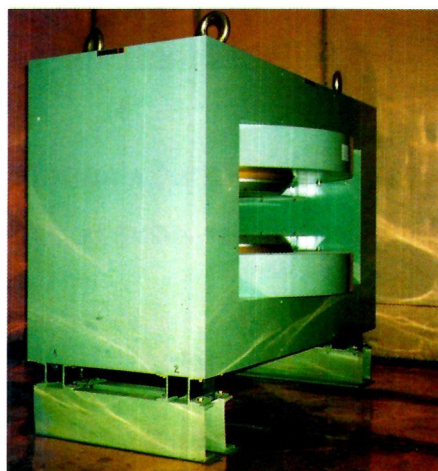


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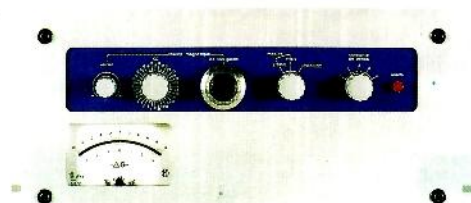


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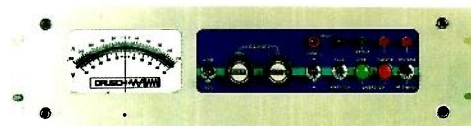
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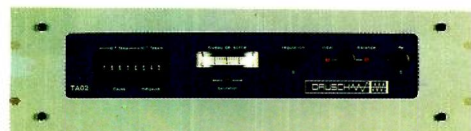
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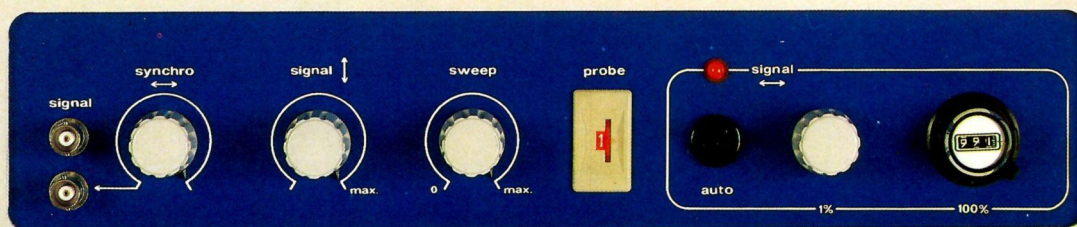
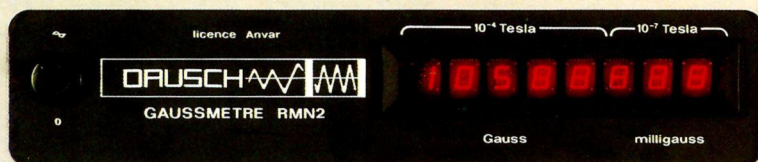


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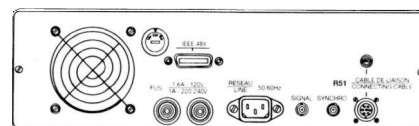
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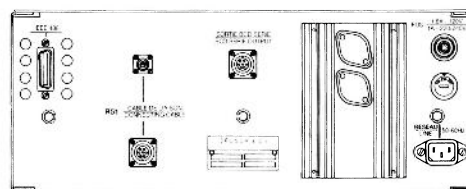
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