People and things

LHC magnets

In the research and development programme for CERN’s LHC high energy proton-proton collider to be built in the 27-kilometre LEP tunnel, a model twin-aperture superconducting magnet recently achieved a magnetic field of 10.25 tesla after being cooled to 2K.

The magnet used new wide-cable niobium-titanium conductor, with up to 27,000 5-micron filaments.

Meanwhile on 23 April an agreement was signed between CERN, Helsinki University of Technology and Uppsala University for the development of prototype LHC superconducting magnets. CERN LHC superconducting magnet development work already involves collaborations with partners in Austria, France, Germany, Holland, Italy, Spain and the UK.

Physics cinema

Physics cineast Lynn Silverman’s 53-minute film ‘Anatomy of an Experiment’ about the Aleph collaboration at CERN’s LEP electron-positron collider had peak time showing on the Franco-German arte’ channel in May.

Oxford accelerators

Oxford Instruments are combining skills from their Synchrotron and Cyclotron groups into an Accelerator Technology Group under Martin Wilson. Principal activities are manufacture of compact superconducting synchrotrons and cyclotrons, together with development and design work for new accelerator applications and research equipment.

Gerhard ‘Gerry’ Fischer 1929-93

Gerhard ‘Gerry’ Fischer of the Stanford Linear Accelerator Center (SLAC) died on 7 February. After research at Columbia and Harvard, he became convinced of the importance of electron-positron colliders. He moved to SLAC for the design and construction of the SPEAR ring. As well as being responsible for SPEAR’s injection system, he also designed the solenoid magnet for the famous Mark I experiment. Subsequently he went on to assume a major role in the development of Stanford’s SLC Linear Collider.
TWO RESEARCH ASSOCIATE POSITIONS

Applications are invited for two postdoctoral Research Associate Positions in the Particle Physics Group. The successful candidates will work in one of the following activities of the group.

1. Studies of electroweak interactions in ALEPH at LEP at CERN.
2. Deep Inelastic Scattering in the H1 group at HERA at DESY.
3. Detector development for the inner tracking detector for the ATLAS collaboration at the LHC at CERN.

Both posts are supported by the SERC in the UK. Applications consisting of a CV together with the names of two referees should be sent to:

Professor T Sloan
School of Physics and Materials
University of Lancaster
Lancaster LA1 4YB
UK
(e-mail: TS@UK.AC.LANCS.PH.V1)

from whom further details can be obtained. The closing date for applications is 30 June 1993.
Alexander S. Davydov (1912-1993)

A.S. Davydov died in February of a disease induced by a heart attack. In the early 1940s simultaneously and independently of Rarita and Schwinger he proposed a relativistic equation for spin 3/2 particles. Later he shifted towards solid state theory, nuclear physics, nonlinear phenomena and biophysics. Such notions as "Davydov splitting", "Davydov-Filippov model of nonaxial nuclei", "Davydov solitons" became widespread. A popular author of brilliant books and manuals, his "Quantum Mechanics" is used worldwide as a basic text. He worked in Moscow, Kiev, Obninsk and Ufa. From 1973-88 he headed the Institute for Theoretical Physics of the Ukrainian Academy of Science in Kiev, and remained as Honorary Director of the Institute.

From L. Jenkovszky and V. Loktev (Institute for Theoretical Physics, Kiev)

On 29 March CERN Research Director Walter Hoogland formally opened CERN's travelling exhibition in Prague, organized in collaboration with the Czech Academy of Sciences, with Czech Deputy Ministers P. Bratinka (left, Foreign Affairs) and V. Ludvik (right, Industry and Trade).


The design of shielding and the prediction of the induced radioactivity for high energy accelerators have usually been considered by most accelerator builders as a somewhat mysterious subject for which they were largely dependent on the wisdom of a few specialists. This has changed dramatically for people with a do-it-yourself mentality after the publication of this delightful book by Tony Sullivan of CERN, which will stand as his 'scientific testament', condensing the knowledge from a lifetime's work as a radiation protection physicist.

For each subject Sullivan gives a short description of the physics involved, after which he uses his extensive experience around CERN accelerators to condense a diversity of physics processes into a wealth of handy formulae and tables as well as almost 100 graphs.

This data enables those with minimal knowledge in this field to find their own answers to many of the radiation protection questions which arise in accelerator design, such as the dose rate as a function of shielding thickness, the shape and dimensions of access chicanes, skyshine from weak spots in roof shielding, the level and decay rate of induced radioactivity during a machine shutdown, etc.

There was clearly a strong need for such a handbook, and I am convinced Sullivan's book will save a lot of time for people involved in radiation protection around accelerators.

Bastiaan de Raad

European Physical Society

After two years in office, Maurice Jacob of CERN steps down as President of the European Physical Society. His successor is Budapest.
Physics Faculty Position
Theoretical Accelerator Physics
University of Houston

The Department of Physics invites applications for a tenured, or tenure-track position which it expects to be open for Fall 1993, at a rank appropriate to the qualifications of the candidate. Applicants for the position are expected to have extensive experience in theoretical research on high energy accelerators and storage rings. Involvement in operation of accelerators, and beam studies, are considered important. The candidate is expected to have demonstrated outstanding excellence in research, and to have interest and ability in teaching. Topics of research interest at UH include: beam dynamics in linacs, space charge effects in low energy proton synchrotrons, optimization of synchrotron tunes in the presence of nonlinear multipole fields, self-consistent treatment of beam-beam interaction in hadron colliders, emittance dilution due to periodic crossings of nonlinear resonances, and the optimum arrangement of magnets in superconducting rings. The group maintains active collaborations with Argonne, Brookhaven, Fermilab and SSCL. Students participate in theoretical investigations as well as various beam studies during residence at laboratories. Applicants should send a full resume and the names of at least references as early as possible, to Prof. Roy Weinstein, Chairman of Search Comm., IBPD, Room 632 SR1, University of Houston, Houston, Texas 77204-5506. The University of Houston is an equal opportunity/Affirmative Action Employer.

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condensed matter physicist Norbert Kroo. Former CERN Director General Herwig Schopper was reelected to the Executive Committee.

Meetings

This year’s DESY Theory Workshop on “Quantum Chromodynamics” will be held in Hamburg (Germany) from Sept 29 - Oct 1, 1993. Further information from O Nachtmann (Chairman), Inst. Theor. Physik, Universitaet Heidelberg, D-6900 Heidelberg (Germany); e-Mail: C12 at vm.urz.uni-heidelberg.de

Neutrino 94 - the XVI International Conference on Neutrino Physics and Astrophysics - will be held from 29 May - 3 June 1994 in Eilat, Israel. Contact Arnon Dar, Dept. of Physics, Technion, Haifa 32000 Israel. Fax +972.4.221514, e-mail phr19ad@technion

The second biennial workshop on nucleon-antinucleon physics will be held at the Institute of Theoretical and Experimental Physics (ITEP), Moscow, from 13-18 September. Further information from Naja Smorodinskaya, ITEP, B. Cheremushkinskaya ul. 25, 117259 Moscow, Russia, fax +7(095) 123 6584, e-mail nan93@vxitep.itep.msk.su. Or Silvia Giromini (fax +39 6 9403 243) or Donatella Pierluigi (fax +39 6 9403 243)

Internal targets at HERA

At DESY an international workshop on 'Physics at HERA with internal targets' from September 21-23 will discuss the physics accessible with both the 30 GeV electron and the 820 GeV proton beam of HERA. Special emphasis will be given to: the physics accessible through scattering experiments with polarized/unpolarized electrons and polarized/unpolarized targets; Beauty Physics and CP violation using the HERA proton beams; and the implications for proposed and planned experiments and the accelerators. Participation is open to anybody interested. For further details from e-Mail WIT93@VXDESY.DESY.DE or fax: ++49 40 8994 4304.

Polarized beams at Stanford

A marked increase in beam polarization and a recent doubling of the luminosity at Stanford’s SLC linear collider have considerably increased physics potential. Story in the next issue.

L. Jackson Laslett

Prominent Berkeley machine physicist L. Jackson Laslett died on 7 May. A full tribute will appear in the next issue.

C. de Witt (left), founder of the Les Houches Summer School over 40 years ago, and A. Nemoz, President of the University of Grenoble, at les Houches in April to discuss future les Houches programmes. During the meeting, the main auditorium was dedicated to the late Y. Rocard who served on the Les Houches Board for many years. C. de Witt was recently awarded the ‘Prix du Rayonnement français’. (Photo M. Jacob)