
Bookshelf

and, discounting the host states of France and Switzerland, for a long time has been one of the leading CERN Member States in terms of industrial return (expressed as a fraction of the nation's CERN contribution), although this return factor has dropped in recent years. However Norwegian industry understands well that the technology transfer value of CERN business far exceeds its face value.

Paradoxically, Norway's industrial liaison with CERN began in Sweden, where in 1967 Norwegian engineer Carl Rønnevig was invited by the Swedish authorities develop industrial contacts with CERN. After some success Mr. Rønnevig returned to Norway to start his own successful business but since 1980 has managed to combine this with the responsibility of being Norway's Industrial Liaison Officer for CERN.

In the 1980s, computer manufacturer Norsk Data had valuable CERN contracts. Significant contracts were also obtained for telecommunications and cabling. More recently semiconductor detector work has involved the University of Oslo, the national SINTEF/SI research organization, Dolphin and AME.

Norway's share of CERN business has dropped, but this has not gone unnoticed. A recent report 'Industry Liaison Models between International Laboratories and Norwegian Industry and R&D - Case study: CERN' by Tom. Ø. Kleppstø of the Norwegian Foundation for Research in Economics and Business Administration looks into the history of Norway's industrial links with CERN and explores some future possibilities.

Stars as Laboratories for Fundamental Physics, by Georg G. Raffelt, published by University of Chicago Press, ISBN 0 226 70271 5 (hbk price \$77) 0 226 70273 3 (pbk)

Ever since Roemer, in 1675, analysed the timing of the occultations of the satellites of Jupiter to conclude that the speed of light is not infinite, fundamental physics has found in astronomy, astrophysics and cosmology not only inspiration, but also concrete answers to fundamental questions. As the title of this book reflects, the trend continues to this day.

This thick volume of some 650 pages is authored by a leading expert on the field. It thoroughly covers what stars have to tell us about some particles that do exist (neutrinos) and others whose existence is quite defensible (axions). It contains a mercifully brief chapter on "Miscellaneous Exotica", but no more than one paragraph on the emission of gravitational waves by the binary pulsar PS 1913 + 16.

Some subjects, such as the clash between observed and expected solar neutrino fluxes, do not have clear-cut resolutions at the moment; their presentation requires a pinch of opinion. In this, the author shows very good taste, in the usual sense (that is, more often than not, his judgements agree with those of the reviewer).

The list of references is quite exhaustive, often reflecting more of a collector's spirit than a potentially more useful thorough sifting. The style is clear, making the book an easy consulting tool, and a must for any scientific library or serious practitioner of the field.

Alvaro De Rujula

History of Original Ideas and Basic Discoveries in Particle Physics, Harvey B. Newman and Thomas Ypsilantis (eds), NATO Advanced Study Institute Series, Plenum Press, ISBN 0 306 45217 0 (\$195)

Now available are the proceedings of the International Conference on the History of Original Ideas and Basic Discoveries in Particle Physics, held at the Ettore Majorana Centre for Scientific Culture, Erice, Sicily from 27 July - 4 August 1994. (Christine Sutton of Oxford reported on the meeting for the CERN Courier - December 1994, page 11.) This is a fascinating collection of personal recollections of milestone physics discoveries, particularly for some of the more recent developments which have yet to make science history books: Murray Gell-Mann on how to be innovative; Steven Weinberg on electroweak unification; Gerard 't Hooft on Gauge Theory and Renormalization; David Gross on Asymptotic Freedom, Confinement and QCD; Martin Perl on the Tau Lepton; and Sheldon Glashow on Quark Families and Flavour, to name but a few of the book's 49 chapters. A mine of useful information.

The SSC Low Energy Booster, edited by H.-Ulrich Wienands, IEEE Press, Piscataway, NJ, ISBN 0 7803 1164 7 (\$149.95)

When the US Superconducting Supercollider, SSC, being built at Ellis County, Texas, was abruptly cancelled in October 1993, design and prototyping of the Low Energy

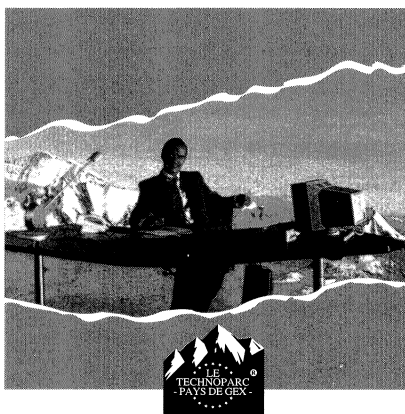
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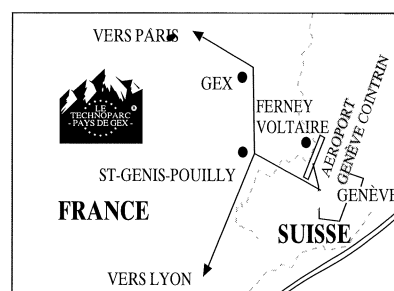
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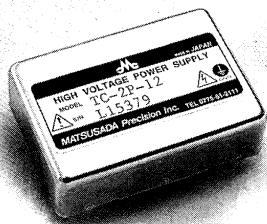
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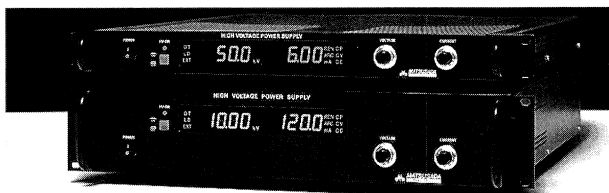


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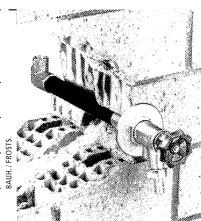
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People and things

Booster (LEB) were well advanced. This 570-metre circumference synchrotron would have taken 600 MeV protons from the injector linac to 11.1 GeV for injection into the next machine in the chain, the Medium Energy Booster. The design and prototyping work achieved is fully documented, and could be useful. (Two injector synchrotrons were originally planned for the SSC, but the large acceleration steps in this sequence subsequently led the design to be modified to include three booster synchrotrons - the 540 m-circumference Low Energy Booster taking 600 MeV protons from the injector linac to 11 GeV to feed a 3.96 kilometre-circumference Medium Energy Booster and take the particles to 200 GeV for a 10.69 kilometre High Energy Booster to inject into the 87-kilometre main ring at 2000 GeV.)

Books received

Spectrométrie de masse, Principes et Applications, (2 édition), Emilia Constantin, Lavoisier Tec & Doc, Paris (In French) ISBN 2 7430 0084 8

From 1 January 1997, Luciano Maiani of Rome becomes President of CERN's governing body, Council, succeeding Hubert Curien.

CERN Council President

From 1 January 1997, Luciano Maiani of Rome becomes President of CERN's governing body, Council, succeeding Hubert Curien. A distinguished theoretician (the 1970 Glashow-Iliopoulos-Maiani model showed how electroweak synthesis could be extended to a world of four quarks), he has also been President of the Istituto Nazionale di Fisica Nucleare since 1993.

Joël Fettesse becomes director of DAPNIA, Saclay

Joël Fettesse, formerly spokesman of the H1 experiment at DESY, Hamburg, is now director of DAPNIA (department of astrophysics, particle physics, and associated instrumentation) at Saclay (French Atomic



*Joël Fettesse, the new director of DAPNIA, Saclay
(Photo Luc Perenon)*



Energy Commission). He succeeds Jacques Haïssinski, who created a new synergy between the diverse DAPNIA components.

Joël Fettesse has dedicated the major part of his career to the exploration of nucleon constituents. After initial research on baryonic resonances at Saturne (Saclay), for many years he has been a prominent member of the NA4 team studying nucleon structure at CERN. In 1985, together with his colleagues at DESY, he laid the foundations of the large H1 experiment at HERA dedicated to the exploration of the proton.

He now manages a huge department comprising not only particle physics (in particular experiments at CERN) but also space experiments (satellites), ground astrophysics experiments, nuclear physics (GANIL and CEBAF/Jefferson in particular). As part of the experiments at CERN under his management, the departments of particle physics and associated instrumentation are considerably involved in the magnets for CERN's LHC, the big toroid and solenoid