



Energy dependence of the energy resolution of a scintillating fibre block. The block was inclined at 10° to the beam direction to avoid preferential development of electromagnetic showers along the fibres.

the square root of the energy in GeV, provided the incident particle was at more than 5° to the direction of the fibres. Use of a light guide reducing the photosensitive area by a factor of three resulted in a reduction of only 20 per cent in the light signal, thanks to the channelling of light by the fibres. Irradiation of bare fibres by a gamma-ray source at doses of up to 10^6 rad reveals no change in light output or attenuation length. As for spatial resolution, preliminary estimates give 5 mm for 60×80 mm blocks.

Tests should soon begin on a new prototype built using the techniques envisaged for large scale production.

(From M. Bourdinaud)

CONFERENCE Nordic physics

Around 80 physicists from eleven countries fought heavy snowstorms and 20-below temperatures at the winter resort of Spåtind, Norway, for the 8th Nordic Meeting on Elementary Particle Physics in January. This biennial conference is a traditional meeting place for Nordic particle physicists, and especially for the young research students, but also draws participants from other countries. This year's meeting was organized by the Division of Particle Physics of the Swedish Physical Society.

The Spåtind meetings offer both extended review talks by prominent invited lecturers, shorter contributions with research news, and spontaneous evening workshops.

Maurice Jacob (CERN) told about

the thrilling prospects for collider physics in the light of the present results, and Don Perkins (CERN) reviewed the status and future plans for the HERA machine at DESY.

John Ellis (SLAC and CERN) convinced the audience with his talk on grand unification and supersymmetry that around the corner there is a sparticle for every particle and a she for every he (which earned him a special prize at the table tennis tournament for 'best supersymmetric hit'...).

Helmut Satz (Bielefeld) reviewed the concepts behind the idea of quark-gluon plasma formation. Experiments at the CERN PS and SPS with light-ion beams could give important hints on the quark deconfinement mechanism in quantum chromodynamics. The formalism for theoretical work in this field has much in common with the theme of Peter Hasenfratz' (CERN) talk on lattice gauge theories. He reported a recent workshop at CERN to coordinate the enormous computer work necessary to estimate hadron properties using this promising approach.

When it comes to current experimentation, the word 'paradox' always whets everyone's appetite. In his review talk on heavy flavour production, Lucien Montanet (CERN) explained why it is difficult to explain the observed rates of charm production. Bill Scott (CERN) covered the remarkable results from the CERN proton-antiproton collider, including the unexplained Z^0 events with energetic photons.

Equally mysterious are the protons that refuse to decay, but according to the review talk on baryon non-conservation by Don Cundy (CERN), there are still a few surviving candidate events which might save theories of grand unification.

Andy Parker (CERN) ended up with one of the most celebrated parad-

People and things

oxes of yesteryear when overviewing the data on nucleon structure functions — the so-called EMC effect discovered at CERN by the European Muon Collaboration. The fact that quarks in atomic nuclei behave differently from those in free nucleons made Parker conclude that one can no longer use any old objects as targets for high energy experiments. Meanwhile theorists are enjoying a honeymoon with the EMC effect. There are by now several dozen different models, and only further experiments will reveal which one is correct.

The shorter talks added up to a rich smorgasbord of interesting new results. A special session was devoted to the development of detectors for LEP, with emphasis on the DELPHI collaboration where the Scandinavian groups participate.

The intensive and inspiring week finished with the traditional cross-country ski competition. Among the many prizes awarded, one has almost become a tradition: that to Don Perkins for coming in furthest away from everyone else, by an impressive margin.

(From Sverker Fredriksson)

On people

Ian Butterworth of Imperial College, London, presently Research Director at CERN, was awarded the CBE in the traditional UK New Year's Honours List. Bob Voss, ex-Daresbury, became an OBE.

CERN Theory Division Head Maurice Jacob has been elected Chairman of the French Physical Society for 1985. This year he is Vice-Chairman.

This year the Rutherford Medal and Prize of the UK Institute of Physics goes to Peter Higgs of Edinburgh and Tom Kibble of Imperial College, London, for their contributions to particle physics theory, particularly their work on spontaneous symmetry breaking in gauge theories, which is a cornerstone of the new electroweak picture.

American Physical Society

The composition of the American Physical Society's Division of Particles and Fields Executive Committee for 1984 is: John Peoples (Fermilab, Chairman), James Cronin (Chicago, Vice-Chairman), Gerson Goldhaber (Berkeley), Alfred Mann (Pennsylvania), Edmond Berger (Argonne), Gary Feldman (SLAC), David Nygren (Berkeley), Robert Palmer (Brookhaven), Chris Quigg (Fermilab and Chicago), Richard Taylor (SLAC), and Thomas Ferbel (Rochester, Secretary-Treasurer).

A microphotograph of the EF8308 chip, an 8-bit parallel (flash) analog/digital converter now available from Thomson Semiconductors in France. The EF8308, and its companion EF8408 8-bit digital/analog converter, are both designed to operate at speeds of up to 20 MHz, a performance level of potential interest for physics experiments with high data rates.

(Photo Thomson Semiconductors)

