

With regard to the long-term performance (the most important parameter for assessing the match between target and actual return in order to preserve the balance of the Fund), a negative performance like that of 1994 obviously affects the gross five-year yield, which fell from 6.5% at the end of 1993 to 5% at the end of 1994. Over ten years these figures are 6.4% and 5.5% respectively, and over twenty years the effect is considerably cushioned since the gross performance remains at the 6% of the chosen actuarial assumption (6.2% at the end of 1993 over twenty years).

Once again it has to be seen that, in order to prosper and provide effective social protection, pension funds need favourable and as stable as possible capital return conditions on the financial markets.

Although high for an institutional investor booking its assets in Swiss francs, a 6% target does not seem to be out of reach provided that there is economic growth.

Conclusions

These graphs and statistics are taken from the 1994 Annual Report of the Pension Fund (CERN/2088-CERN/FC/3778), which members and beneficiaries may obtain from Divisional Secretariats or the Administration of the Fund (Tel. 7672738) respectively. The Annual Report contains detailed information on all aspects of the Fund's activities, including movable assets and real-estate investments, trends in the situation concerning members and beneficiaries, and the main matters dealt with and the work done by the Fund's bodies. If you are interested in the affairs of your Pension Fund, we strongly encourage you to read the Annual Report and to attend the Annual General Meeting, whose agenda you will find above.

SEMINARS SEMINAIRES

Monday 2 October

PPE SEMINAR

at 16.30 hrs – Auditorium

Results on $B-\bar{B}$ oscillations from ALEPH

by Olivier SCHNEIDER / CERN-PPE

The standard model allows the neutral B mesons to oscillate between their particle and antiparticle states. The experimental determination of the B_d and B_s oscillation frequencies, Δm_d and Δm_s , is best performed by measuring the proper time distributions of mixed and unmixed candidates. The various ALEPH analyses will be reviewed and discussed, with an emphasis on Δm_s results. Measurements of Δm_d have been obtained from dilepton, inclusive lepton, and D^* events. Searches for B_s oscillations have been performed using dilepton and inclusive lepton samples, as well as lepton-kaon correlations, yielding lower limits on Δm_s . The principle of a new method to combine Δm_s limits will also be presented.

Tuesday 3 October

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium*

Electroweak Physics with Quarks at DELPHI

by Klaus MOENIG / CERN

Measurements using identified quark final states at LEP are important test of the Standard Model of electroweak interactions.

Forward-Backward asymmetries of quarks have turned out to be one of the most precise determinations of the weak mixing angle $\sin^2 \theta_{\text{eff}}$. Contrary the ratio of the cross section for the production of a specific quark flavour to the total hadronic cross section depends only on the details of the Z couplings to the specified flavour. Especially for b-quarks these couplings receive important contributions from top-quark loops of Supersymmetry.

In this talk measurements of quark asymmetries and partial widths with the DELPHI detector are presented, which use up to 3 million hadronic Z-decays recorded in 1991 to 1994. The results are compared to those of the other LEP collaborations and to the predictions of the Standard Model.

* Tea & coffee will be served at 16.00 hrs.

Wednesday 4 October

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

The standard model and beyond in thermal equilibrium

by K. KAJANTIE / CERN

The practical goal of finite temperature theory is to determine phase transition characteristics (order, critical temperature, latent heat, interface tension, etc.) for the standard model, its extensions (supersymmetric or not) or grand unified theories. The results will be needed for understanding phenomena in the very early universe and in nuclear collision experiments. We shall discuss how the problem can (and, for the EW sector, has to) be split into two parts:

(1) A replacement of the full 4d theory with bosons and fermions by an effective 3d bosonic theory. A single 3d theory is the effective theory of a large class of 4d theories. In particular, the $SU(2) \times U(1)$ theory in 3d with a single Higgs doublet describes the phase transition in the MSM and many of its extensions. We describe how the mapping of the complete 4d theory to a 3d effective bosonic theory is to be done.

(2) A study of the phase diagram, operator expectation values and their correlators of the effective 3d theory. Here perturbation theory gives useful insight, but the study has ultimately to be carried out by numerical lattice Monte Carlo methods. A number of recent results for the electroweak theory are presented.

Wednesday 4 October

COMPUTING SEMINAR

at 16.00hrs – CN Auditorium, bldg 31/3-005

Highlights from CHEP '95

by Julian BUNN / CN & Felix HASSINE / CN

The speakers will review the presentations given at this year's Computing in High Energy Physics (CHEP) conference, both from a general point of view and in their specific areas of interest.

Organiser : G.Folger / CN

Thursday 5 October

TECHNICAL PRESENTATION

at 10.00 hrs – CN Auditorium, bldg 31/3-005

The Engineering Data Management System MATRIX

by M. ADAMI-SAMPSON / Director-Research, Matrix Div., Adra Systems Inc.

In the presentation the basic capabilities and architecture of the Engineering Data Management System MATRIX will be explained. The focus will be on the kinds and structure of the information stored in the application and the basic functions the application provides an organization. The fundamentals of the network architecture of the product and the advantages that it offers will also be discussed. The presentation will be followed by a demonstration.

Friday 6 October

COMPUTER COLLOQUIUM

at 10.00 hrs – Council Chamber*

The future of Internet

by Jim CLARK / Netscape Communications Corp.

In this talk Jim Clark, President of Netscape, will present his view on the future of Internet and the Web. Internet usage and its evolution, emerging new technologies, such as electronic commerce, will be mixed in with his personal vision of the fully interconnected Web society. Jim Clark received a Master of Science in physics in 1971. In 1974 he received a Ph.D. in Computer Science. After some years as a University professor, Jim founded Silicon Graphics in 1981 where he pushed several new technologies into the market, including inexpensive 3-D graphics computers and multimedia stations. He was the Chief Technical Officer of SGI for many years. In 1994 Jim left Silicon Graphics to head Netscape Communications which he is also representing during Telecom-95 in Geneva.

** Please note the usual time and place*

Friday 6 October

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room

Does unitarity strongly affect the photon-hadron scattering amplitude?

by V.A. PETROV / Theory Division, IHEP, Protvino, Russia

The validity of the Froissart-Martin bound for the photon-hadron scattering amplitude will be discussed. The deeply-inelastic structure functions will also be considered in this context, especially at small x .

Monday 9 October

TECHNICAL PRESENTATION

at 10.00 hrs – CN Auditorium, bldg 31/3-005

Microware's latest and Future Software Products

by Peter DIBBLE / Research Scientist, Microware Systems Corporation (USA)

This talk will review Microware's recent releases and discuss plans for the near and remote future.

Recent releases include : a maintenance release of OS-9, OS-9000 release 2.0, support for additional versions of PowerPC, support for the 68060, a new release of FasTrak (including FasTrak for Windows), a major new release of DAVID, compiler support for the 040, 060 and Pentium, a major restructuring of ROM code, a significant maintenance release of ISP, various DAVID-related networking products, and C++ for all supported targets.

The near future holds further maintenance releases of OS-9, a major update of PCF (still pending since last year, maybe I'll add Windows 95 long file name support :-), FasTrak support for system state debugging, and some greatly-improved low-level SCSI drivers.

Organiser : S. Cannon / CN / 5036

Monday 9 October

PPE SEMINAR

at 16.30 hrs – Auditorium

Measurement of CP violation parameters and test of CPT in the neutral kaon system

by Marc DEJARDIN / CEA, DSM/DAPNIA, CE Saclay

The CPLEAR experiment studies the CP, T and CPT symmetries in the neutral kaon system by measuring decay rates asymmetries between initially pure neutral kaon states. Results on η_{+-} and Λ_m , based on the analysis of data collected up to 1994, are presented. Their implication on testing CPT invariance is discussed.

Monday 9 October

SCIENCE AND SOCIETY SEMINAR

at 16.30 hrs – Council Chamber

Nuclear Explosion Testing and Maintenance of Nuclear Weapon Stockpiles

by Richard L. GARWIN / IBM

Tuesday 10 October

TECHNICAL PRESENTATION

at 10.00 hrs – CN Auditorium, bldg 31/3-005

VMEbus and Motherboard Products

by J. GIPPER / Director of Marketing for Embedded Technologies, Motorola (Computer Group)

Organiser : S. Cannon / CN / 5036

Wednesday 11 October

TECHNICAL PRESENTATION

at 10.30 hrs – CN Auditorium, bldg 31/3-005

LynxOS Developments : PosixWorks, LynxOS version 2.3

by Mitchell BUNNELL & Mark OVERGAARD / Lynx Real-Time Systems Inc.

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