

PENSIONS BOARD

At its 40th meeting, held on 11 November 1987, the Pensions Board heard a report from the Administrator on how the Fund's assets stood following recent turmoil on the stock markets. The Administrator stressed that, thanks to a very cautious policy and to the very conservative handling of the Fund's assets, their value at the end of October had dropped by a mere 1.9% in relation to the capital invested to that date. If that percentage were compared with the falls on stock markets in Switzerland: -25%, Germany: -33%, France: -29%, the Netherlands: -25% and the United States: -11%, to quote only the usual investment currencies of the Fund, it could be seen that the assets had been only slightly affected by recent events.

The portfolio's good performance could be explained mainly by the fact that a large proportion of the assets were in the form of short and medium-term deposits of liquidities. That form of investment, frequently criticized in the past, had made it possible to obtain a higher yield than that on bonds issued by the Swiss Confederation. While it might be somewhat premature to forecast likely developments in the coming weeks, the state of the Fund's income at the end of October gave grounds for thinking that there would be a positive balance at the end of the financial year 1987.

The Pensions Board agreed to propose to the Finance Committee and the Council, as it had done last year, that pensions should be adjusted by the same rate as salaries.

The Board continued its discussion of the future administrative structure of the Pension Fund.

The manager of the real-estate portfolio submitted a proposal for a purchase and was given the Board's agreement to continue negotiations on it.

The Board also continued its discussion of the Fund's technical rate of interest in the light of comparisons with other pension funds.

The Administrator announced the results of the operation for validating the fourth step of the Complementary Pension Scheme which were as follows:

- positive replies : 3 200
- refusals : 100
- no reply : 120

All those concerned would receive a letter acknowledging receipt or confirming their refusal to validate the fourth step.

The Administrator announced, with great regret, the death of Mr Fernand Abiven, a beneficiary of the Fund.

SEMINARS SEMINAIRES

Lundi 30 novembre

SEMINAIRE EF

à 11.00 h - Salle de conférence EF
bât. 13, 2-005

**La simulation : mais c'est très simple!
or CAE : it's elementary my Dear Watson!**

par F. BOURGEOIS / CERN-EF

En électronique, la simulation est le préalable indispensable à la réalisation et au test des circuits intégrés digitaux (ASICs ou autres). L'orateur montrera qu'il en est de même pour les circuits digitaux usuels et comment son utilisation peut réduire le nombre des prototypes tout en assurant une meilleure documentation et une bonne gestion des projets. Le séminaire sera donné en français... sur des transparents et avec un vocabulaire technique anglais.

Monday 30 November

EP SEMINAR

at 16.30 hrs - Auditorium

The hyperon beam proposal at UNK

by A. VOROBYOV / LNS, Leningrad, USSR

Mardi 1 décembre

PRESENTATION TECHNIQUE

de 09.30 à 12.00 h et de 14.00 à 16.00 h

bât. 17, salle 1-005

SAB NIFE SA (F), département NIFE, spécialisé en accumulateurs industriels nickel-cadmium (S), onduleurs, redresseurs et alimentations de secours (F/S) propose en exposition démonstration :

- *sa gamme des blocs-batteries nickel-cadmium NIFE et de la nouvelle batterie SUNICA*
- *présentation de la gamme MINI ORB 250 VA avec démonstration (sur oscilloscope à mémoire et sur détecteur de perturbation)*
- *présentation du nouveau redresseur SMR (redresseur triphasé à découpage 50 kHz, 48 V-60 A) et démonstration de programmation du module 'monitoring' associé.*

Langues : anglais, français

Renseignements : M. Diraison / FI / 4585

Mardi 1 décembre

PRESENTATION TECHNIQUE

de 14.00 à 17.00 h

Baraque Enseignement, bât. 593, R-011

RTF, Radio Télévision Française (F) propose un séminaire sur les réseaux logiques programmables (PGA, Programmable Gate Arrays) de Xilinx (USA) : LCA, Logic Cell Array série XC 2000 type XC 2064 (1200

gates, 64 logic blocks, 58 I/O blocks), type XC 2018 (1800 gates, 100 logic blocks, 74 I/O blocks), technologie C/MOS, cycle d'exécution 33/50/70 MHz (toggle rate) – Logic Cell Array série XC 3000, en cours d'introduction (2000-9000 gates, 164-320 logic blocks, 128-640 fonctions, 256-928 flip-flops, 64-144 user I/O pins), permet la création de bus internes, l'augmentation du nombre de bascules, une logique combinatoire plus puissante, la réalisation de multiplexeurs et décodeurs très larges.

Logiciels : interface adaptée à différents logiciels de saisie, de schéma, placement routage automatique, XACT logiciel de développement, simulation, mise au point, debugger, compilateur de l'application.

Domaine d'applications : toutes applications de systèmes électroniques nécessitant une intégration de circuits logiques.

Exposé par des spécialistes de cette famille ASIC : introduction au PGA, architecture du LCA, puissance et souplesse du complex Xilinx, performance, méthodologie de conception applicable au LCA, configuration des fonctions, programmation, méthodes de test, exemples d'applications.

Langues : anglais/français, selon auditoire
Renseignements : M. Diraison / FI / 4585

Mardi 1 décembre

PRESENTATION TECHNIQUE

de 14.00 à 17.00 h

Parking bât. 867, site de Prévessin

SERVELEC (F) propose en exposition démonstration : tableau BT (basse tension) MF4 modulaire fixe, compartimenté – tableau BT EPI avec une gaine multidépart et jusqu'à 32 platines débrochables – système de gestion automatisée avec terminal General Electric (USA) pour délestage/relestage commande d'automatisme, chauffage, etc. – système d'automatisme avec automates série 7 de Télémécanique (F) et supervision, télé réglage, synoptique sur micro-ordinateur IBM PC ou compatible.

Langues : français
Renseignements : M. Diraison / FI / 4585

Wednesday 2 December

PS SEMINAR

at 11.00 hrs – PS Conference Room
bldg 6, 2-024

Field and Q_0 limitations for RF cavities built from conventional and new high T_c superconductors

by G. MÜLLER / University of Wuppertal, West Germany

The status of the achievable field levels and quality factors in superconducting Nb and Nb₃Sn cavities is reviewed. The present performance limitations of real superconducting surfaces are compared to the full potential of RF superconductivity. First results of the RF properties of the new oxide superconductors will be presented.

Wednesday 2 December

THEORETICAL SEMINAR

at 14.00 hrs – Theory Conference Room

Classical and quantum gravity from superstring collisions

by G. VENEZIANO / CERN

Planckian energy superstring collisions are evaluated through an all-order resummation of loops in flat space-time. Expected classical gravity effects are obtained in certain regimes, while, in others, important quantum-string modifications are shown to occur.

Wednesday 2 December

LEP SEMINAR

at 14.30 hrs – LEP Auditorium
bldg 30, 7th floor

Synchrotron radiation background to LEP experiments

by G. von HOLTEY / CERN-LEP

The simulation methods used to predict the synchrotron radiation background in the interaction regions of LEP are described. Essential ingredients are photon radiation, absorption and scattering, as well as the concept of superparticles. A scheme of collimators to intercept direct and reflected photons is presented and the resulting protection of experimental detectors is shown.

Thursday 3 December

TECHNICAL PRESENTATION

from 09.00 to 12.00 hrs

Education Service hut, bldg 593, R-011

GESPAC SA (CH) seminar

Gespac new G-64 products

GESMPU-20 : the most powerful processor module on G-64 bus with the MC 68020 32-bit processor from Motorola.

GESSBS-6 : complete 68000 or 68010 single board computer with memory (RAM, EPROM) serial and parallel I/O real time calendar.

GESRAM-14A : 2Mbyte Dynamic RAM module.

GESIKD-2 : new interface keyboard – Display.

GESFDC-3 : controller for floppy and floppy like streamers including buffer on board well-suited for real time application.

GESVIG-4, GESVIG-4E and GESVIG-14A : complete set of graphic boards using the Hitachi graphic processor and covering from the low end to the high level of graphic needs.

GESNET-1A : Ethernet like local area network from GESPAC.

GESMC-2 : stepper motor controller using state of the art gate array designed in GESPAC's offices.

GESSCC-1 : the only single euroboard full X 25 controller on the market today.

GESREV-1 : 4 resolver interfaces on G-64 bus.

Gespac new software products

PORTAL : a very powerful multi-tasking high level language on OS-9/68000 aimed at process control applications.

GPS, DROOPY : several graphic softwares for G-64/G-96 products based on VIG-4 boards and a mouse.

G-64 standardisation growing in the world.

Demonstration and questions. Documentation.

Languages : English/French, according to audience

Information : M. Diraison / FI / 4585

Jeudi 3 décembre

PRESENTATION TECHNIQUE

de 09.00 à 12.00 h et de 14.00 à 16.00 h

bât. 864, 2-B12, site de Prévessin

DCA, Développement Conseil Automatisation, spécialisé dans la vente des produits s'intégrant dans des applications d'automatisation industrielle, propose en exposition démonstration le programme de *Action Instruments* (USA), leader mondial en informatique industrielle.

Matériel :

1. micro-ordinateurs industriels compatibles PC XT/AT, capables de travailler dans des environnements extrêmement difficiles (0-60°C/10 G en choc et 2 G en vibrations permanente), 3 types de présentation : boîte noire, 'rackable' 19", architecte automate
2. cartes d'entrées/sorties industrielles en standard BUS PC, E/S numériques/analogiques, entrées thermocouples/sonde PT/pont de jauge, compteur rapide/positionnement numérique, commande du moteur pas-à-pas, etc.
3. périphérie industrielle, claviers, moniteurs, environnement, etc.

Progiciels

1. LABTECH : par acquisition et traitement de données (applications laboratoire)
2. CIM-PAC : contrôle commande, centrale autonome et intelligente d'acquisition, supervision d'automates, concentrateur d'informations du site, gestion technique centralisée, système de conduite continue. Logique industrie (F), éditeur SOM, progiciel PROCESSYN, progiciel modulaire au standard PC pour la supervision de : automates programmables, terminaux d'ateliers, régulateurs, centrales d'acquisition.

Langue : français

Renseignements : M. Diraison / FI / 4585

Jeudi 3 décembre

PRESENTATION TECHNIQUE

de 14.00 à 17.00 h

Baraque Enseignement, bât. 593, R-011

MATRA DATASYSTÈME (F) propose un séminaire sur les nouveautés de sa gamme de production : stations de travail graphiques XMS 3000, système multiprocesseurs parallèles XMS 7000 (utilisation calcul scientifique et gestion transactionnelle 4 à 40 MIPS), multiprocesseur CAPITAN d'une puissance maximale de 750 MIPS, très adapté aux domaines suivants : traitement d'images, traitement du signal, reconnaissance de formes, robotique, images de synthèse, simulation temps réel, calcul, etc.

Langues : anglais/français, selon auditoire

Renseignements : M. Diraison / FI / 4585

BULLETIN CERN

49/87 - 30.11.87

Friday 4 December

SPS SEMINAR

at 11.00 hrs - SPS Auditorium

Prévessin, block 1, 1st floor

First tests of a superconducting cavity in the SPS

by W. WEINGARTEN, D. BOUSSARD / CERN

A prototype superconducting cavity for LEP was installed recently in the SPS machine, in order to gain experience with such a cavity in a real accelerator, and also to provide more RF voltage for the LEP injector. The cryostat was cooled down from the surface with dewars, via a long vertical helium transfer line. A description of the cavity and its associated cryogenics will be given first, together with the operational results obtained. The radiofrequency part is somewhat unusual because the cold cavity must be made transparent to the high intensity proton beam of the SPS. This is achieved by an RF feedback system built around the cavity and tetrode power amplifier. Its design and performance will be presented in the second part of the talk.

Monday 7 December

EF SEMINAR

at 11.00 hrs - EF Conference Room

bldg 13, 2-005

Muon catalyzed fusion

by H. STRÖBELE / CERN-EF

Light muonic atoms are 200 times smaller than ordinary atoms. If in a diatomic molecule an electron is replaced by a muon the intranuclear distance is also 200 times smaller than normal. Such a configuration leads to spontaneous fusion of light nuclei at a rate which can be large compared to the decay rate of the muon. This fusion reaction liberates energy as well as the muon, which may again be captured by a molecule, thus starting a new fusion cycle. Use of this nuclear reaction in economical power plants requires at least 1000 fusion cycles per muon. Current experiments achieve 100-200 fusions per muon.

Tuesday 8 December

PRESENTATION

from 10.00 to 12.00 hrs approx.

DD Auditorium, bldg 31, 3-005

VMEbus boards and system, high technology

by David ILLMORE, Adrian BROWN,

John CAMILLERI / HTEC

Mercredi 9 décembre

SEMINAIRE LEP

à 14.30 h - Amphithéâtre LEP

bât. 30, 7e étage

Les dipôles de correction d'orbite MCB pour les régions d'interaction du LEP : de la conception aux tests finaux

par V. REMONDINO / CERN-LEP

Thursday 10 December

PRESENTATION

from 10.00 to 12.00 hrs approx.
DD Auditorium, bldg 31, 3-005

**Software development tools
for microprocessor applications**

by C. CHENU / Technical Director,
Ready Systems France

TRAINING AND EDUCATION ENSEIGNEMENT

Mardi 1er décembre

LES SCIENCES AUJOURD'HUI

à 20.00 h précises – Amphithéâtre
jusqu'à environ 22.00 h

par R. CARRERAS

Rafel Carreras, responsable du programme d'Enseignement général au CERN, commentera et expliquera un choix d'articles parus récemment dans les revues scientifiques, et qui couvrent l'ensemble des sciences physiques et biologiques ainsi que certains aspects des relations science-société. Une attention particulière est portée au langage et aux notions utilisés afin que les explications et les commentaires soient accessibles aux personnes n'ayant pas de formation scientifique.

Entrée libre.

(Please note that the lecture will be given in FRENCH)

Service des Relations publiques
Tél. 2722

ENSEIGNEMENT GENERAL

Tél. 2844

Jeudi 3 décembre

de 13.00 h à 13.30 h – Amphithéâtre

Science pour tous

par R. CARRERAS

ACADEMIC TRAINING

Tel. 2844-3364

1 & 2 December

11.00 hrs to 12.00 hrs – Auditorium

**The solar neutrinos problem
Dark matter in the Universe**

by E. SCHATZMAN / Observatoire de Nice

INFORMATICS TUTORIAL 1987-3

Announcement

Lecturer

René BRUN / CERN-DD

Title

PAW, the Physics Analysis Workstation

Dates

Series 1 : Tuesday 15 and Wednesday 16 December

Series 2 : Thursday 17 and Friday 18 December

Subject

PAW is conceived as an instrument to assist physicists in the analysis and presentation of their data. It provides interactive graphical presentation and statistical or mathematical analysis, working on objects familiar to physicists like histograms, event files (n-tuples), vectors, etc.

PAW is intended to be useful to any physicist with minimal notions of computing, at least at the basic level of usage. It requires, in principle, no long learning phase before getting started. Simultaneously, it is thought to become a powerful and efficient tool in the hands of a more experienced user, with practically limitless extension possibilities through added programs at the FORTRAN level. PAW is primarily intended to be the last link in the analysis chain of experimental data. It may conceivably also be used as a data presentation package in a data acquisition environment. It has, therefore, access facilities for experimental data, if these have been formatted by the popular package HBOOK, or for any FORTRAN data.

The PAW environment includes the following packages :

- HBOOK4 : a new version of the histogramming package
- HPLLOT5 : a new version of the graphics package of HBOOK
- HIGZ : a high level interface to GKS
- KUIP : a user interface system (command mode and menus)
- COMIS : a Fortran interpreter
- SIGMA : an array manipulation language
- ZEBRA : a data structure management system

At present the PAW system is running on APOLLO workstations, VAXes and on the IBM VM/CMS.

Registration

The two series of two day lectures will be devoted to hands-on experience with the PAW system. Examples on how to use PAW on various computer systems and workstations will be given. The number of participants will be limited to 20 for each series. If you are interested in attending please send an electronic mail message to

INFOTUTO@CERNVM

Lecturer

René Brun is a Senior application programmer in the User Support group, Data Handling division. Physicist by education, he has a long experience in writing large software tools for data analysis. He is one of the main authors of packages like GEANT, HBOOK, HPLLOT, ZBOOK, ZCEDEX and ZEBRA.