

SEMINARS SEMINAIRES

Monday 10 February

LEP MACHINE ADVISORY COMMITTEE

Open session

at 14.00 hrs – LEP Auditorium

14.00 LEP status report

by E. PICASSO

15.00 Status report on controls

by P.G. INNOCENTI

16.00 Status report on the vacuum system

by R. CALDER, O. GRÖBNER and
T. WIKBERG

Closed session

Tuesday 11 February at 11.00 hrs – 6th floor
Conference Room, Main Building.

Monday 10 February

EP SEMINAR

at 16.30 hrs – Auditorium

High resolution X-ray detection with superconducting tunnel junctions

by V. ZACEK / CERN-EP

Thin film superconducting tunnel junctions (Sn/SnO_x/Sn) operated at a temperature of 0.3 K were irradiated by a ⁵⁵Fe X-ray source. Pulses due to photo-absorption in the devices were observed and the spectral lines at 5.89 keV and 6.49 keV could clearly be resolved by pulse height analysis. An energy resolution of 250 eV was obtained in the first tests reported here. Improvements appear possible by straight forward techniques.

Tuesday 11 February

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium*

A high precision measurement of the electroweak mixing angle

by Frederic PERRIER / CEN, Saclay

In a dedicated exposure of the CDHS detector to the 160 GeV narrow band neutrino beam at CERN, the ratio of neutral current to charged current cross-sections of neutrinos in iron has been measured. From it, the electroweak mixing angle has been extracted.

* Tea and coffee will be provided at 16.00 hrs.

Mercredi 12 February

PRESENTATION TECHNIQUE

de 09.00 à 12.00 h – Amphithéâtre DD
bât. 31, 3-005

INDUSTRADE SA (CH), représentant VALID LOGIC SYSTEMS (USA), propose un séminaire, suivi de

démonstration, sur le thème CAE/CAD (conception assistée de l'ingénieur pour le développement et le dessin de circuits électroniques). Seront présentés notamment les aspects techniques de la saisie de schémas électroniques, la simulation logique réelle avec chip VLSI, la vérification temporelle, la conception et simulation de circuits analogiques ainsi que la conception de circuits intégrés (silicon compiler). Les produits présentés vont des solutions très économiques (sur Personnel Computer) à celles plus importantes sur VALID, DEC VAX ou IBM 370, que ce soit en utilisation autonome ou centrale.

Wednesday 12 February

PS SEMINAR

at 11.00 hrs – PS Auditorium

bldg 6, 2-024

Detailed particle dynamics in Linacs

by P. LAPOSTOLLE

If acceleration, phase stability and focusing properties are well described by general theory, a practical linac never satisfies exactly the conditions of the theory. Detailed computations are necessary. The method used has some analogy with a beam transport programme with the addition of a special treatment for crossing the accelerating gaps. In the early Linac programmes, each gap was considered as giving an energy kick in the longitudinal direction and acting as a thin lens in the transverse direction, both effects being phase dependent. The drawback of this simple analysis was that when the transit time factor of the gap was introduced, Liouville's theorem was not satisfied and phase space not conserved. Present methods avoid of course such a difficulty. Based on the representation of the field in a gap in the form of a Fourier series or integral, the motion of a particle can be computed with the help of a perturbation method of first or second order. In the first approximation, only the synchronous wave of the Fourier spectrum is acting and expressions are relatively simple. Second order corrections give very high accuracy, even for relatively wide 'gaps' such as the multi-gap cavities of independent cavity linacs (an example will be given). According to requirements, a variety of methods can be used which will be briefly discussed.

Wednesday 12 February

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

The essential magnetic instability of the perturbative Yang-Mills ground state : the origin of colour confinement

by G. PREPARATA / INFN, Frascati

The essential magnetic instability of the perturbative ground state of non-Abelian Yang-Mills theories, recently discovered, is shown to lead to a family of degenerate states, the Sawidly states, where the Yang-Mills field undergo an infinite (when the ultra-violet cut-off $\Lambda \rightarrow 0$) condensation process. These states build up the real Yang-Mills ground state, in which colour is confined and governed by the effective Lagrangian of Anisotropic ChromoDynamics (ACD), proposed by the present author a few years ago. This appears to solve the problem of confinement in QCD.

Wednesday 12 February

PRESENTATION

at 14.00 hrs – Council Chamber

Digital introduces new members in the VAX family

by Norman VALENTINE / European VAX Marketing Manager, and
Douglas THOMPSON / European mid-range VAX Marketing Manager

- The VAX 8800 is the new high-end member of the VAX family. It provides up to 12 times the performance of the VAX-11/780.
- The recently announced VAX 8650 is up to 44% faster than the VAX 8600.
- The VAX 8200 is the complete VAX architecture and floating-point accelerator implemented in a multi-chip VLSI design. It is based on the new VAX BI bus and is particularly suited for applications requiring high throughput.
- The VAX 8300 is a dual CPU version of the VAX 8200.

Wednesday 12 February

CAS ACCELERATOR SEMINAR

at 14.30 hrs – Auditorium

Operational assessment of the Fermilab accelerators

by H. EDWARDS / FNAL

Thursday 13 February

PRESENTATION

at 14.00 hrs – DD Auditorium
bldg 31, 3-005

VAXstation II/GPX color graphics workstation

by Jean-Claude MONNEY / European VAXstation Marketing Manager

Digital announces the VAXstation II/GPX Color Graphics Workstation incorporating a powerful VLSI graphics coprocessor that offloads all text and graphics processing from the MicroVAX II CPU. The new station supports both VMS and UNIX environments. Software includes GKS, VT100/200 emulators, X-Window System and 4014 protocol.

Thursday 13 February

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium*

Evidence for narrow states decaying into ($\lambda + \text{antiproton} + \text{pions}$) at 3.1 GeV/c² with charges +1, 0 and –1

by K.-P. STREIT / CERN

Evidence for narrow states produced by negative sigma interactions in beryllium and decaying into $\lambda + \text{antiproton} + \text{pions}$ has been observed in the experiment WA62 at the CERN SPS hyperon beam. At 3.1 GeV/c², the effective mass distribution with two positive pions, with two positives and one negative pion, and with one

positive and one negative pion show an excess of 45, 19 and 61 events above a background of 50, 28 and 188 respectively. The observed widths of these signals are compatible with the mass resolution of the apparatus. We have not been able to find an explanation for the quantum numbers of the final states, which are baryon number 0, strangeness –1 and charge +1, 0 and –1.

* Tea and coffee will be provided at 16.00 hrs.

Tuesday 18 February

PRESENTATION

at 10.00 hrs – DD Auditorium
bldg 31, 3-005

Future Motorola 32-bit VMEbus products and related software

by Hans-Peter HENKEL / VMEbus Marketing Manager, Motorola

This presentation replaces the one announced for 23 January which was cancelled.

Tuesday 18 February

CERN PARTICLE PHYSICS SEMINAR

at 16.00 hrs – Auditorium

PLEASE NOTE SPECIAL TIME!

Production of electron-positron pairs in nucleus-nucleus collisions

by P. KIENLE / Gesellschaft für Schwerionenforschung, Darmstadt

Wednesday 19 February

DD SEMINAR

at 16.00 hrs – DD Auditorium
bldg 31, 3-005

Computer networking research at the University of Helsinki

by Martti TIENARRI / Departement of Computer Science, University of Helsinki

TRAINING AND **EDUCATION** **ENSEIGNEMENT**

ENSEIGNEMENT GENERAL

Tél. 2844

Jeudi 13 février

de 13.00 h à 13.30 h – Amphithéâtre

Science pour tous

par R. CARRERAS