

SEMINARS

SEMINAIRES

Monday 22 January

DETECTOR SEMINAR

at 11.00 hrs – ECP Conference Room, bldg 13/2-005

The Cryogenic Noble Liquid Detector: Recent developments and experimental results

by Giovanni CARUGNO / INFN Padua

A review on the recent development effort on this technique is given with emphasis on liquid purification, maintenance of purity, electron multiplication on tip, electron extraction from liquid and mobility measurement in a liquid mixture. Some preliminary data is then presented on two experiments using a self triggered liquid Xenon TPC (radiative pion decay) and a multi-electrode liquid argon ionization chamber for the double beta decay.

Monday 22 January

SPECIAL SEMINAR

at 11.00 hrs - Auditorium

Status of the SLAC-based B Factory

by Jonathan DORFAN / SLAC

The SLAC-based B Factory is slated to begin physics in 1999. The accelerator upgrade is halfway done; commissioning has already begun on the newly constructed, dedicated injection lines. The high energy ring will see its first beam 15 months from now. First two-ring collisions are scheduled for Summer 1998. The nine-nation detector team is doing final design; some major components such as the superconducting magnet are already on order.

This presentation will focus on progress to date, including an update of the projected sensitivity of the facility to measurements of CP violation.

Lundi 22 janvier

UMTF COMPUTING TUTORIALS

14.00-16.00 h – Amphithéâtre CN, bât. 31/3-004&5

Basic Unix Commands / Unix File System

par Lionel CONS

Ce premier cours à propos d'UNIX décrira le système de fichiers (concepts, structure, noms, etc.) et la manipulation simple de documents et répertoires (création, renommage, impression, etc.).

Il sera donné en français.

Monday 22 January

CERN COMPUTING COLLOQUIUM

at 14.00 hrs* – Auditorium

Internet standards as exponential growth begins and ends

by Paul V. MOCKAPETRIS / Chairman of the Internet Engineering Task Force (IETF)

The conventional picture of Internet growth is a smooth exponential growth. A more realistic model is one in which

a sequence of technological innovations make the Internet relevant to a sequence of markets. Today's internet is really a mixture of older, smaller markets which are near saturation, and newer, mass markets where Internet penetration has yet to begin.

The IETF is striving to tune its approach to standards to match this reality. This necessitates standards approaches which are appropriate for these new market, and diverge from the standards processes of the past.

** Please not the unusual day and time*

Lundi 22 Janvier

PRESENTATION TECHNIQUE

14.00-16.00 h – Auditorium bldg 4/S-013

Gamme de présentation concernant les pompes Turbo Edwards par Dave GOODWIN / Grawley, London, UK

par Pierre SNËCK

1. Présentation générale de tous les produits fabriqués par Edwards
2. Présentation détaillée de toutes les gammes de pompes turbomoléculaires avec leurs turbo contrôleurs.
 - fabrication
 - conception
 - entretien
 - fiabilité

Chacun est invité à participer activement par leurs questions.

Information: L. Abel / FI - A / 95-61

Tuesday 23 January

SPS AND LEAR EXPERIMENTS COMMITTEE

Open session

at 09.00 hrs – Auditorium

1. Status report for NA44: H. Bøggild.
2. Status report for WA97: E. Quercigh.
3. Status report for NA43/2: E. Uggerhøj.
4. Measurement of pion and kaon fluxes below 60 GeV/c produced by 450 GeV/c protons on a Beryllium target (the Secondary Particle Yields collaboration; SPSLC 96-01 / P294) : S. Ragazzi.
5. Production of antihydrogen (PS210): W. Oelert.
6. Status report for CRYSTAL BARREL: M. Fässler.
7. Status report for PS196: First observation of cooling of trapped protons with trapped electrons: G. Gabrielse.

Closed session

at 14.00 hrs, 6th floor Conference Room (to be continued on Wednesday 24 January at 09.00 hrs)

Tuesday 23 January

TECHNICAL PRESENTATION

at 10.00 hrs – CN Auditorium, bldg 31/3-004&5

Sony High Performance Data Storage

by Allan ARTHURS / Senior Manager: Data Storage Systems, Sony Broadcast & Professional: Europe

Sony produce a range of very high performance data storage products based on technology originally developed for the

professional broadcast industry. Sony data storage products are already in use in a variety of scientific and industrial applications including High Energy Physics both at CERN (NA49) and KEK.

The DIR-1000 Series is based on ID-1, a 19mm tape format which conforms to a recent ANSI standard capable of up to 100GBytes on a standard cassette at data rates up to 32 MBytes/second.

The new Sony DTF (Digital Tape Format) is based on 1/2" tape technology and is capable of up to 42 GBytes/cassette at 12 MBytes/second via a standard SCSI-2 fast/wide interface.

Sony also produce a range compatible Automated Tape Libraries and controllers. The latest addition to the range is capable of providing storage for up to 2.6 Peta Bytes of data using any number of tape drives.

The talk will cover the key aspects of the technology as well as details of the current developments of a new 64 MByte/sec tape drive. The new "PetaSite" tape library (as installed at KEK) with a capacity for 150 Tbytes and 27 tape drives will be described in detail.

Organiser : S. Cannon / CN / 5036

Tuesday 23 January

ISOLDE SEMINAR

at 15.15 hrs – TH Conference Room

The GSI storage cooler ring – a powerful tool for mass spectrometry and the detection of exotic weak-decay modes

by Fritz BOSCH / GSI, Darmstadt

In the GSI storage-cooler ring ESR unstable nuclei of a similar mass-over-charge ratio m/q , provided by a fragment separator, can be simultaneously stored, accumulated and cooled to highest phase-space density. By analysing the revolution frequencies of the stored ions (Schottky spectroscopy), their masses can be determined with a resolving power $m/\Delta m \geq 10^6$. An in-beam calibration by known reference masses allows a high accuracy for mass differences. Due to the excellent beam quality even ground- and isomeric states at a few hundred keV are mass-resolved. Furthermore, the ultimate sensitivity could be reached, i.e. detection of one single stored ion. However, the rather long time needed to cool down the hot fragments presently restricts this method to life-times ≥ 30 s. Stochastic pre-cooling, being presently installed, will lower this limit to a few seconds in the near future. Exotic weak-decay modes of stored, highly charged ions may be detected, too. For instance, bound-state beta decay (where the decay electron remains bound in an empty state of the electron cloud) has been observed first at the ESR. At the example of bound-state beta decay of ^{187}Re (very recently observed) which serves as a "clock" for the age of our galaxies, the astrophysical impact of this weak-decay mode will be outlined.

Tuesday 23 January

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium*

Neutrino Oscillations for the Non-Conformist

by D. PERKINS / Oxford University

The favoured explanation for the solar neutrino deficit is via the MSW enhancement of vacuum neutrino oscillations

with small mixing angle. Historically, maximal vacuum mixing of all 3 neutrino flavours was proposed before the MSW mechanism, and provides a possible solution of practically all of the results from solar and atmospheric neutrino experiments. The hypothesis of maximal mixing has the advantage of simplicity and easily testable predictions for present and forthcoming reactor and accelerator experiments. It also, incidentally, renders the MSW effect unobservable.

* Tea & coffee will be served at 16.00 hrs.

Wednesday 24 January

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

Masses of the light quarks

by H. LEUTWYLER / Univ. Bern & CERN

I intend to review the current knowledge concerning m_u , m_d and m_s and first discuss some of the qualitative aspects of the underlying picture, such as the relation between the U(1) anomaly and the mass of the η 's or the breaking of isospin and eightfold way symmetries. At a more quantitative level, I will consider the chiral perturbation theory results for the masses of the Goldstone bosons and discuss the estimates for the ratios m_u/m_d and m_s/m_d , which follow from these. Also, I wish to present some new bounds for the quark masses, obtained with the $1/N_c$ expansion.

Wednesday 24 January

SEMINAR FOR CERN GUIDES

organized by the Visits Service – Group DSU/CP

at 16.00 hrs – Council Chamber

CERN : a Model for Technological Developments?

by Hans Hoffmann/ CERN-PPE

This seminar (in English) is especially intended for CERN guides, but is open to all interested people.

In the 40 years of its existence CERN has taken part and actively promoted the development of accelerators and accelerator components as well as particle physics experiments and experimental apparatus.

Seen over the period of 40 years the progress in the technologies used is quite remarkable. A few examples are presented and also some significant features of the development process explained.

Thursday 25 January

UMTF COMPUTING TUTORIALS

10.00-12.00 – CN Auditorium, bldg 31/3-004&5

USERREG for group admins

by Genny FERRAN

The USER REGistration interface USERREG, used by the group administrators to register users and accounts for the CERN computer services, will be presented

- User identification and registration - Implicit and Explicit account registration, AFS space management, NOVELL mailboxes, etc.
- The databases involved - USERREG after CERNVM.

Friday 26 January

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room

Effective theory techniques in heavy quarkonia

by J. SOTO / Barcelona

Friday 26 January

COMPUTING SEMINAR

at 14.00hrs – CN Auditorium, bldg 31/3-004&5

The BaBar Experiment - Computing Issues for the year 2000

par David QUARRIE / LBL

The BaBar experiment at the PEP-II asymmetric e+e- Collider at SLAC is due to commence data taking early in 1999. This talk will briefly describe the detector and its physics goals in order to set the scale of the computing problem. Approximately 10^{10} events, corresponding to 80 TBytes of information, are expected to be accumulated per year. In addition the collaboration is large and geographically dispersed – almost 500 physicists from 80 institutions in 10 countries. Thus the computing issues break down into two categories – technical and sociological/managerial. Both of these will be discussed.

The major focus will be on the work that is underway to establish a distributed software development environment, the computing model that is the baseline plan for dealing with the onslaught of data, and more speculative avenues that are expected to be explored in parallel with this baseline. This will be an updated version of the plenary talk given at CHEP'95.

Organiser : G.Folger / CN

* Please, note unusual day & time!

Lundi 29 janvier

CONFERENCE & EXPOSITION A L'OCCASION DES 50 ANS DU COMMISSARIAT A L'ÉNERGIE ATOMIQUE (CEA)

à 10.00 h – Amphithéâtre

Grandes machines pour l'infiniment petit

Depuis sa création en 1945, le CEA a engagé un effort important pour comprendre la structure ultime de la matière. Le CEA a construit des machines et des grands détecteurs, mobilisant de nombreux physiciens, ingénieurs et techniciens qui ont développé un savoir-faire reconnu dans le monde entier.

10.00 Le CEA, la physique théorique et la physique des particules

par Jean ZINN-JUSTIN / CEA

Les débuts de la physique des particules et de la physique théorique au CEA.

10.30 Cinquante ans de physique des particules au CEA

par René TURLAY / CEA

Historique de la physique des particules au CEA. Les grandes étapes de cette histoire, les réalisations, les découvertes et les péripéties.

11.00 Les défis du DAPNIA

par Jacques HAÏSSINSKI / CEA

Les défis du DAPNIA (Département d'Astrophysique, de physique des Particules, de physique

Nucléaire et d'Instrumentation Associé) : son originalité, l'étendue du champ couvert et le cadre dans lequel l'ensemble des défis devra être partagé.

11.30 Ouverture officielle de l'exposition photos sur l'histoire de la physique des particules au CEA

L'exposition photo demeurera au 1^{er} étage du Hall du bâtiment principal du 29 janvier au 9 février 1996.

Langues : français et anglais

Monday 29 January

TECHNICAL SEMINAR

at 11.00 hrs – ECP Conference Room, bldg 13/2-005

An Engineering Data Management System (EDMS) for the LHC Accelerator and Experiments

by C. HAUVILLER / CERN-PPE

To properly manage data for the billions of components used in a detector or an accelerator over the whole lifecycle of a project is a challenge. An EDMS is a new technology which should enable us to perform this management. After a general presentation of data management, the CERN approach will be discussed.

Lundi 29 janvier

UMTF COMPUTING TUTORIALS

14.00-16.00 h – Amphithéâtre CN, bât. 31/3-004&5

Basic Unix Commands / Jobs & Processes

par Lionel CONS (en français)

Monday 29 January

PPE SEMINAR

at 16.30 hrs – Auditorium

Tau decays with the ALEPH detector

by Ricard ALEMANY / CERN PPE

From the data sample collected up to 1993, the tau decay rates have been measured by the ALEPH detector using a global analysis. Particular attention has been addressed to the π^0 reconstruction and to the removal of fake photons which will be described in detail. The complete set of tau branching ratios allows the first measurement of the vector and axial-vector contributions to the non-strange hadronic tau decay width which will be discussed.

Tuesday 30 January

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium

Recent Results from HERA on the Proton-Photon-Pomeron Triad

by Claude VALLEE / Université d'Aix-Marseille II

Wednesday 31 January

TECHNICAL PRESENTATION

at 10.30 hrs – bldg 593, room 11

Joining techniques and mechanical construction in accelerator components

by P. PRIEUX, F. PRANGERE, J.-M. BARBAZAN, J. DUVAL, J.-L. RECHATIN, P. TEKIAN

Information: L. Abel / FI - A / 95-61

Wednesday 31 January

COMPUTING SEMINAR

at 16.00 hrs – CN Auditorium, bldg 31/3-004&5

Problem-Oriented Random Numbers

by F. JAMES / CERN

Organiser : G. Folger / CN

Thursday 1 February

LARGE HADRON COLLIDER COMMITTEE

at 09.00 hrs – Auditorium

Open Session

09.00–09.15 Status of the LHC project (C. Llewellyn Smith)

09.15–11.15 Presentation of the ALICE Technical Proposal
(J. Schukraft et al.)

Thursday 1 February

TECHNICAL PRESENTATION

CTI Vacuum – Technology Seminar

09.00 to 16.30 hrs – Auditorium of bldg 032/2-b16

9.00–10.30 h Basic vacuum principles as speed, pressure, throughput, capacity etc. with reference to vacuum-systems and vacuum-pumps. Various high vacuum pump types as diffusion-pumps, turbomolecular-pumps, cryopumps, water-pumps are discussed in different applications as evaporation, sputtering, ion-implantation, etching and UHV application.

Dry pumps and mechanical pumps as of importance in this context.

Coffee break

10.45–12.00 Pumping of loadlocks and multiple chambers from cluster tools as well as UHV systems.

Lunch

13.30–16.30 Presentation of UHV pumps as well as our new technology of "On-Board waterpumps" that can add additional pumping speed for water vapour to existing pumps (turbopumps).

Jeudi 1 février

UMTF COMPUTING TUTORIALS

10.00–12.00 hrs – Amphithéâtre CN, bât. 31/3-004&5

ORACLE pour piétons

par Geneviève FERRAN (en français)

Thursday 1 February

SL SEMINAR

at 16.00 hrs – SL Auditorium, Prévessin, bldg. 864

Summary of the 6th Workshop on LEP Performance

by S. MYERS / CERN

POUR INFORMATION / FOR INFORMATION

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Wednesday 24 January

SEMINAR ON PARTICLE PHYSICS

at 17.00 hrs - Auditoire Stuckelberg

Recent Results in B Decays

by Matthias NEUBERT / CERN

Recent developments in the theory of heavy flavour decays are reviewed together with a summary of new experimental results. The topics covered include: determinations of the Cabibbo-Kobayashi-Maskawa matrix elements V_{cb} and V_{ub} , form factors in semileptonic B decays, rare radiative B decays, the semileptonic branching ratio of the B meson and charm counting, lifetimes of b-flavoured hadrons, and the determination of α_s from Upsilon spectroscopy.

EDUCATION SERVICES EDUCATIFS

ENSEIGNEMENT GÉNÉRAL

Tél. 5811

Jeudi 25 janvier

à 13.00 h – Amphithéâtre

Science pour tous

par Rafel CARRERAS