

SEMINARS

SEMINAIRES

Monday 11 May

EP SEMINAR

at 16.30 hrs – Auditorium, bld. 500*

Charm physics at SLD

by Nicolo DE GROOT / SLAC

The SLD detector at SLC, with its excellent vertexing capabilities, a polarized beam and particle identification, is very well suited for charm physics. I will give an overview of the SLD charm programme and in particular present the latest results on R_c and A_c based on a highly efficient vertex-mass tag.

Organiser : Fabiola Gianotti / CERN-EP

* Tea & coffee will be served at 16.00 hrs.

Tuesday 12 May

DUALITY WORKSHOP

at 14.00 hrs – TH Conference Room, bld. 4

Large N gauge theories, black holes and strings

by I. KLEBANOV / Princeton University

I discuss connections between the world volume theory of coincident Dirichlet three-branes, which at low energies is the $N=4$ supersymmetric Yang-Mills theory, and type IIB strings in the background of the three-brane classical solution. This connection allows us to deduce a number of strong coupling properties of the supersymmetric Yang-Mills theory with an infinite number of colours. Specifically, I present results on anomalous dimensions and correlation functions of vertex operators, as well as on the thermal partition function.

Tuesday 12 May

IT TRAINING TUTORIAL

14.00-16.00 hrs – IT Auditorium, bld. 31/3-004

Introduction to Access 97

by Alberto DI MEGLIO / CERN-IT

Microsoft Access 97 is the application included in MS Office 97 for data storage and manipulation. It uses proper Relational Database Management System (SQL) technology, like Oracle, and is suited to the creation and management of small databases for personal use. It can also interface with CERN workgroup databases where the data is stored on the central or workgroup Oracle servers.

It provides a set of tools, called Wizards, to simplify most of the tasks required to develop tables, SQL queries and reports. Simple visual tools can be used to create forms to enter and manipulate the data and all tasks can be automated by means of Visual Basic for Application modules and ActiveX objects.

Access 97 connectivity features are very good and allow to import or link data from a wide range of external sources, from simple text to Oracle databases. In addition, databases can also be published to a WWW server in HTML format for use across an intranet or the Internet.

This tutorial provides a step-by-step guide through the design and management of a simple, but full-featured data-

Vous pouvez aussi consulter

For information on these seminars, please see

<http://wwwas.cern.ch/Bulletin/Seminars/current.html>

base, including examples about linking tables from external sources, building VB modules and publishing to an internet server in static and dynamic form.

Information: <http://wwwinfo.cern.ch/support/training>

Organisers: M.Marquina and R.Ramos / IT-User Support

Tuesday 12 May

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium, bld. 500*

First results from the new Brookhaven measurement of the anomalous magnetic moment of the muon

by David W. HERTZOG / University of Illinois at Urbana-Champaign

The goal of experiment E821 at BNL is to improve by a factor of 20 the result of the classic CERN measurement of the muon anomalous magnetic moment, ($g-2$). At this level of precision, ($g-2$) is sensitive to contributions from the electroweak interaction and to new physics beyond the Standard Model up to mass scales of a few TeV. E821 had an engineering run in the summer of 1997. I plan to show the first results from this run with a statistical precision of about 12 ppm (to be compared with the final CERN error of 7.3 ppm). The talk will cover the motivation for the new measurement, a description of the technique, and a discussion of why we can achieve our goal.

Organiser : Jasper Kirkby / CERN-EP

* Tea & coffee will be served at 16.00 hrs.

Wednesday 13 May

TECHNICAL PRESENTATION-5

10.00-12.00 hrs – IT Auditorium, bld. 31/3-004

DIGITAL UNIX

by Kent FEARSON / Vice President,
UNIX Base Operating System Group

1. The UNIX strategy of DIGITAL
 - 1.1 DIGITAL's agreements with Sequent and Tandem
 - 1.2 The future of DIGITAL UNIX with Compaq
 - 1.3 DIGITAL UNIX and IA64/Merced
2. DIGITAL's R&D investments in UNIX
3. The affinity between DIGITAL UNIX and Windows NT (the AllConnect Programme)
4. STEEL: the next DIGITAL UNIX version
5. Clustering – Real examples of big cluster installations
6. Q/A's

Organiser : S. Cannon / IT / 75036

Wednesday 13 May

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room, bld. 4

QCD anatomy and CP violation in $B \rightarrow X_s \gamma$ decays

by Matthias NEUBERT / CERN-TH

In the first part of the talk, we present an improved analysis of the $B \rightarrow X_s \gamma$ branching ratio and photon spectrum,

including consistently the effects of Fermi motion in the heavy-quark expansion. For the Standard Model, we find $B(B \rightarrow X_s \gamma) = (2.57 \pm 0.26_{-0.36}^{+0.31}) \times 10^4$ for the integral over the high-energy part of the photon spectrum with $E_\gamma^{\text{lab}} \geq 2.2$ GeV, in full agreement with the CLEO measurement. We discuss the sensitivity of the branching ratio and photon spectrum to hadronic parameters such as the b-quark mass, and to possible contributions from New Physics beyond the Standard Model. In the second part of the talk, we argue that the observation of a sizeable direct CP asymmetry in inclusive $B \rightarrow X_s \gamma$ decays would be a clean signal of New Physics. In the Standard Model, this asymmetry is found to be below 1% in magnitude. However, in extensions of the Standard Model with new CP-violating couplings large CP asymmetries are possible. They arise naturally, for example in models with enhanced chromo-magnetic dipole operators. Some generic examples of such models are explored and their implications for the semileptonic branching ratio and charm yield in B decays discussed.

Wednesday 13 May

COMPUTING SEMINAR

at 16.00 hrs – IT Auditorium, bld. 31/3-005

The Use of Object Databases as Data Stores for HEP

by Dirk DUELLMANN / CERN-IT & RD45

Starting from 2005 the LHC experiments will generate an unprecedented amount of data. Some 100 Peta-Bytes of event, calibration and analysis data will be stored and have to be analysed in a world-wide distributed environment.

Several R&D projects have been set-up at CERN to study the use of object oriented technology as a key technology of the LHC software systems. The RD45 project investigated different approaches to solve the data storage problems at LHC. The main focus soon moved to the use of Object Database Management Systems (ODBMS) as a central component.

This talk will give an overview of the main features of ODBMS systems and try to relate them to other technologies such as "light-weight" object managers, (object-)relational databases and object request brokers.

It will present the experience gained from several prototype and production applications and briefly summarise the current use of ODBMS based systems in HEP.

Information : <http://consult.cern.ch/seminars>

Organiser : G.Folger / IT

Jeudi 14 Mai

PRESENTATION TECHNIQUE

09.00-12.00 hrs – Salle de conférence ECP, bât. 13/2-005

Le bus de terrain ProFiBus PA

par Messieurs AMBUHL, NAFZ, POLZER & SCHILLACI / Siemens SA

ProFiBus PA est un bus en pleine expansion, des spécialistes Siemens viennent d'Allemagne pour nous tenir au courant des dernières évolutions et des produits disponibles.

09.00-09.10 Introduction

09.10-09.45 ProFiBus PA, aperçu, structure et technique

09.45-10.45 ProFiBus PA, logiciel de paramétrage SIMATIC PDM, tests et diagnostics

10.45-11.00 Pause

11.00-11.30 Appareil de processus SITRANS P

11.30-12.00 Questions, discussion

Langues : français, anglais

Information J. Brahy / LHC-IAS / 78648

Thursday 14 May

THURSDAY SEMINAR

at 14.00 hrs – TH Conference Room, bld. 4

Baryogenesis via neutrino oscillations

by E. AKHMEDOV / ICTP, Trieste

Electroweak reprocessing of lepton asymmetry into baryon asymmetry is a viable and very attractive mechanism of baryogenesis. Usually, it is assumed that the requisite lepton asymmetry is generated in decays of heavy Majorana neutrinos (Fukugita-Yanagida mechanism). I will discuss a new leptogenesis scenario in which the asymmetries in lepton numbers are produced through the CP-violating oscillations of 'sterile' (electroweak singlet) neutrinos. The asymmetry is communicated from singlet neutrinos to ordinary leptons through their Yukawa couplings. The mechanism employs separation of lepton number rather than its generation. The masses of ordinary neutrinos induced by the seesaw mechanism are in the astrophysically and cosmologically interesting range. Except for singlet neutrinos, no physics beyond the Standard Model is required.

Thursday 14 May

SL SEMINAR

at 16.00 hrs* – SL Auditorium, bld. 864

The LHC Injection Transfer Lines TI 2 and TI 8

by Volker MERTENS / CERN

Two new beam lines with a combined length of 5.6 km are needed to transport 450 GeV/c protons from SPS to LHC.

Cost considerations have led to the decision to use classical magnets of compact design.

Almost all key elements have now been designed.

Practically all new magnets will be supplied in the framework of the Russian participation in the LHC.

Many components will be recuperated from then closed-down installations.

Civil engineering will start in 1998. TI 8 has to be operational in 2003 to allow injection tests into LHC.

The talk will present the geometry and optics layout, the main parameters and the status of the various subsystems.

* Tea and coffee will be served at 15.30 hrs in front of the Auditorium

Friday 15 May

LEAR SYMPOSIUM 1998

at 09.00 hrs – Council Chamber, bld. 503

A symposium on Highlights from 14 years of LEAR Physics will be held at CERN, commemorating the closure of LEAR and giving a topical review of the impact of experiments with low energy antiprotons in their respective fields.

The programme of the symposium is given below (see also: http://www.cern.ch/Physics/Conferences/C1998/LEAR_Symposium/LEAR_Symposium.html)

If you plan to participate, please register by sending an E-mail to rolf.landua@cern.ch or by Fax (+41 22 767 8955).

Programme

09.00	Opening Address	C. Llewellyn Smith
09.10	LEAR History	D. Möhl
09.30	LEAR Performance	M. Chanel
09.50	CP Violation	P. Pavlopoulos

Break

11.15	Meson Spectroscopy	H. Koch
12.00	Annihilation in Flight	D. Hertzog

Lunch

14.30	Annihilation at Rest	U. Gastaldi
15.00	Nuclear Physics	T. von Egidy
15.30	Atomic Physics	E. Uggerhøj

Break

16.45	Light Antiprotonic Atoms	R. Hayano
17.15	Antiproton Mass	G. Gabrielse
17.45	AD Project	S. Maury

19.00	COCKTAIL PARTY	Restaurant no.1
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Friday 15 May

IT TRAINING TUTORIAL

10.00-12.00 hrs – IT Auditorium, bld. 31/3-004

Maintaining Fortran and C Code with Make

by Miguel MARQUINA / CERN-IT

Code maintainability is one of the important aspects to be considered in software development. There are special tools for this purpose currently being used by the CERN Program Library Office such as CVS, but there are also some others like the UNIX `_make_` utility which would allow simple yet powerful operations to be performed to ensure that the libraries and programs you use are consistent with each other.

This tutorial will show how to handle Fortran and C programs, force their compilation after given libraries have been modified, or how to compile only the pieces of code which have been changed.

Basic UNIX knowledge and understanding of a programming environment (such as that typical of a Physics Collaboration) is required; the tutorial is targeted to scientists who need to interact and use the software environment set by the corresponding Librarians.

This tutorial is a repeat of the one given in August 1997.

Information: <http://wwwinfo.cern.ch/support/training>

Organisers: M.Marquina and R.Ramos /IT-User Support

Friday 15 May

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room, bld. 4

On the determination of M_W (and TGCs) at LEP2 using the best measured kinematical variables

by Roberto PITTAU / CERN-TH

An alternative method to measure M_W and trilinear gauge boson couplings (TGCs) at LEP2 is presented. Through a maximum likelihood fit, only the best measured kinematical variables are used as an input. In particular, in the determination of M_W there is no need to reconstruct the invariant mass distribution of the decaying W s. A computational tool to calculate the theoretical probabilities for the observed kinematical variables is presented and then applied to samples of unweighted events produced by an event generator. Detailed results are given as an illustration of the feasibility of the method.

Friday 15 May

CERN HEAVY ION FORUM

at 14.30 hrs – Conference Room, bld. 160/1-009

Dense Hadronic Matter: A Stepping Stone to the Baryon-Rich QGP

by Craig OGILVIE / CERN-MIT

There is a tremendous range of many-body physics to be learnt from dense nuclear systems. At high densities where the nucleons significantly overlap, a quark-gluon plasma may be formed. At slightly lower densities, a subtler many-body phenomenon may occur. At four to five times normal density the mean-free path of a hadron becomes so small that each hadron is likely to suffer multiple interactions within the time it takes for any one collision.

The physics of many-body collisions can be probed using the spectra and yields of absorbed particles, for example K- and anti-baryons. These have been measured systematically as a function of both the collision geometry, and beam energy (2, 4, 6, 8 and 10.7 A.GeV) of Au+Au collisions.

The data suggest that multi-body collisions may increase the absorption of these particles. This has potential ramifications for the interpretation of other absorption processes in heavy-ion reactions, for example the yield of the J/psi in Pb+Pb reactions at the SPS.

Tuesday 19 May

IT TRAINING TUTORIAL

14.00-16.00 hrs – IT Auditorium, bld. 31/3-004

Introduction to Word 97

by Karen HOWIE / CERN-IT

Microsoft Word is one of the most popular word processors available for PCs. It is part of the MS Office 97 suite and actually available from any PC at CERN installing NICE. Word is full of powerful features which makes it ideal for most of the personal and workgroup needs.

I will first show the fundamental concepts behind the use of templates and the configuration of the default one (normal.dot). Then, I'll explain the basic text formatting facilities and go in detail into showing how to work with lists, tabs and tables. Also I'll show some integration aspects with Excel. Finally, I'll give some hints on how to manage the toolbars and the creation of HTML content.

The tutorial assumes attendants to have a basic working knowledge of the Windows 95 environment.

Information: <http://wwwinfo.cern.ch/support/training>

Organisers: M.Marquina and R.Ramos /IT-User Support

Mercredi 20 mai

PRÉSENTATION TECHNIQUE

10.00-16.00 hrs – bât. 40/2-A01

Produits et services spécialisés pour laboratoires de recherche

par Martyn LEWIS / Goodfellow Cambridge Ltd

Petites quantités de métaux et matériaux de haute pureté pour la recherche: métaux, alliages, polymères, céramiques, composites et composés en 28 formes, y compris feuille (épaisseurs jusqu'à 1mm, leur spécialité), tige, tube, fil, poudre, monocristal, etc. Un guide des produits et un CD-ROM sont disponibles et comprennent les produits standard stockés, prêts à être expédiés et sans minimum de commande.

Pour plus d'informations, veuillez consulter le site Web
(www.goodfellow.com)

Langues : français, anglais, allemand
Information : L. Abel / FI-A / 79561

Wednesday 20 May

PS SEMINAR

at 11.00 hrs – PS Auditorium, bld. 6/2-024

Tomography of longitudinal phase space

by S. HANCOCK / CERN-PS

Tomography is now a very broad topic with a wealth of algorithms for the reconstruction of both qualitative and quantitative images. One of the simplest algorithms has been adapted to take into account the non-linearity of large-amplitude synchrotron motion. The longitudinal phase space density can thus be accurately reconstructed from one-dimensional bunch profile data. The basis of the method will be explained and a variety of novel measurements showing the bunch dynamics will be presented in the form of computer animations.

Organiser: Bruno Autin

EDUCATION SERVICES EDUCATIFS



Information sur les cours, dates et places disponibles sur WWW:
Information about the courses, dates and places available on WWW :
<http://www.cern.ch/Training/>

ENSEIGNEMENT TECHNIQUE TECHNICAL TRAINING

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PLACES DISPONIBLES PLACES AVAILABLE

Plusieurs cours prévus peuvent encore accueillir quelques participants. Vous les trouverez dans la liste ci-dessous.

Some places are still available in forthcoming courses. These courses are indicated underneath.

Programmation en JAVA niveau 2 - 3 jours	18-20.5.98
Introduction à Eudora Mail - 1/2 journée	25.5.98
FileMaker Pro - 4 jours	26 - 29.5.98
An Overview of the JAVA programming language - 1 day	2.6.98
Nouveautés d'EXCEL - 3 demi-journées	24 - 26.6.98
Nouveautés de FileMaker - 3 demi-journées	7 - 9.7.98

Si vous désirez participer à l'un de ces cours, inscrivez-vous électroniquement en direct depuis les pages de description des cours dans le Web que vous trouvez à l'adresse : <http://www.cern.ch/Training/>, ou remplissez une "demande de formation" disponible auprès du Secrétariat de votre Division ou de votre DTO (Délégué divisionnaire à la formation). Les places seront attribuées dans l'ordre de réception des inscriptions.

If you wish to participate to one of these courses, please apply electronically directly from the course description pages that can be found on the Web at : <http://www.cern.ch/Training/> or fill in an "application for training" form available from your Divisional Secretariat or from your DTO (Divisional Training Officer). Applications will be accepted in the order of their receipt.

DAMAGE MECHANICS

Didier MARQUIS – CERN & Ecole Normale Supérieure de Cachan

The basic notions and concepts of Continuum Damage Mechanics (CDM) are presented. The objective of CDM is to take into account in mechanical analysis of structures the influence of progressive degradation due to different loading (creep, fatigue, plasticity, etc.). CDM allows one to determine for a structure :

- the residual strength
- the conditions for crack initiation
- the residual stiffness
- the life duration

The programme of the sessions will be devoted to :

14.5.1998 : Evaluation and measurements of damage. Scalar and tensorial damage variables.

28.5.1998 : Introduction of damage in a constitutive law. Evolution laws for brittle, creep, ductile, fatigue damages.

4.6.1998 : Structural analysis with damage mechanics. Statistical approach to rupture.

All sessions will take place as follows :

from 11.00 to 12.00 in room 11, barrack 593

These sessions are free of charge and no prior application is needed.