

MOAS : GUIDE POUR SUPERVISEURS : LA RÉDACTION DU RAPPORT D'ÉVALUATION

Dans le cadre de la campagne, d'actualisation des connaissances des superviseurs, un très grand nombre d'entre vous nous a demandé de fournir un document donnant des lignes directrices pour remplir le formulaire de rapport d'évaluation. Un livret a été élaboré par la Division du Personnel pour répondre à cette demande.

Des copies seront disponibles dès le mercredi 3 mars auprès de votre Secrétariat de Division.

Division du Personnel
Tél. 74480

MOAS : GUIDE FOR SUPERVISORS : COMPLETING THE APPRAISAL REPORT

In the framework of the CERN-wide training campaign to refresh skills for performance appraisal, many supervisors have asked for written guidelines on how to complete the appraisal report. Personnel Division has compiled a booklet in response to this request.

Copies of this document will be available from Wednesday 3 March in your Divisional Secretariat.

Personnel Division
Tel. 74480

SEMINARS SEMINAIRES

Monday 1 March

COSMOLOGY MEETING

at 14.00 hrs – TH Conference Room, bldg 4

Study of supersymmetry at future colliders

by M. NOJIRI / Kyoto

If the sparticle mass spectrum is measured at future colliders, it will give us a handle to consider the origin of SUSY breaking. In this talk, we discuss the case where:

- 1) The 3 body decay of neutralino $\chi_2^0 \rightarrow l l \chi_1^0$ is found at LHC. We point out that the measurement of the m_{ll} distribution would give us a handle to slepton mass scale. On the other hand, it is possible that the measured end point of the m_{ll} distribution may not coincide with the kinematical end point $m_{\chi_2^0}$ and $m_{\chi_1^0}$, due to the amplitude suppression.
- 2) We then turn into the case where chargino and slepton production is found in future high luminosity e^+e^- linear colliders. The slepton-ino couplings involved in the production receive the correction proportional to $\log m_{\text{squark}}$. When $m_{\text{squark}} \gg 1\text{TeV} \gg m_{\tilde{W}, \tilde{B}, \tilde{I}}$, the measurement of the coupling is the only way to prove the mass scale. A systematical way to calculate the radiative corrections is given, and experimental reach to the squark mass scale would be discussed.

Monday 1 March

SPECIAL LHC PROJECT SEMINAR

at 16.00 hrs* – LHC Auditorium, bldg 30/7th floor

Impact of accidental beam losses on LHC machine and experiments

by Nikolai V. MOKHOV / Fermilab

The effect of possible accidental beam loss in LHC on the IP5 insertion elements and CMS detector is studied via realistic Monte Carlo simulations. Such beam loss could be

Vous pouvez aussi consulter

For information on these seminars, please see

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

the consequence of equipment or operational failures at injection. Another mechanism is an accidental prefire of one of the 14 abort kicker modules induces the bunch coherent oscillations with beam loss on the collider limiting apertures.

Simulations with the STRUCT code show that this happens in the IP5 inner and outer triplets. Hadronic and electromagnetic cascades induced in such an event and simulated with the MARS code result in severe heating of the inner triplet quadrupoles. It is shown that an unsynchronized abort significantly mitigates but does not eliminate the problem. In order to protect the IP5 elements, two additional methods are proposed: a set of shadow collimators in the outer triplet and a prefired module compensation using a special module charged with an opposite voltage (antikicker). The remnants of the accidental beam loss entering the experimental hall have been used as input for FLUKA simulations in the CMS detector. It is shown that it is vital to take measures to reliably protect the expensive CMS tracker components. The work is done jointly with A. Drozhdin and M. Huhtinen.

** Please note the unusual day and time.*

Tuesday 2 March

DUALITY WORKSHOP

at 14.00 hrs – TH Conference Room, bldg 4

Heterotic ~ F-theory duality and F⁴ couplings in eight dimensions

by S. STIEBERGER / TH Division

We show that certain one-loop corrections to F⁴ couplings of the heterotic string compactified on T² are characterized by a holomorphic prepotential G. After reviewing the underlying F-theory setup, we then discuss how F⁴ couplings can be obtained in F-theory on K3, or more precisely from 7-brane geometry in type IIB language. These computations amount to non-trivial tests of the basic F-theory ~ heterotic duality in eight dimensions acting between open and closed string sectors.

Tuesday 2 March

IT INFORMATICS TUTORIAL

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

The Java Series GUI Building with AWT

by Raul RAMOS POLLAN / IT Division

Will tell you about the pieces the Java environment provides for building Graphics User Interfaces (GUIs). It introduces you to the graphical UI components and other UI-related classes provided in the Java environment.

It also gives an overview of how programs display themselves and how they handle events such as mouse clicks. It also provides a brief explanation of the graphical components present in the AWT library.

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

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

Mardi 2 mars

PRESENTATION TECHNIQUE XILINX

de 14h00 à 17h30 – Amphithéâtre LHC, bât. 30, 7e étage

par Olivier REGNAULT / Ingénieur d'application,
AVNET EMG

La société AVNET EMG (distributeur XILINX France) nous propose de participer à une demi-journée technique au cours de laquelle seront présentées les nouveautés XILINX, en particulier la nouvelle famille VIRTEX (50.000 à 1.000.000 portes) intégrant un grand nombre de nouveautés (blocs mémoires, interfaces I/O formatables, verrouillage d'un bloc avec ses performances, etc.).

- Le point sur les architectures existantes (CPLD's, FPGA's)
 - 9500/XL
 - SPARTAN/XL
 - XC4000/XLA/XV
- Le point sur les outils
 - Version 1.5
 - Les "Cores"
 - Outils disponibles au Cern
- VIRTEX:
 - "Redefining the FPGA"
- Questions/réponses

Organisateur: SERGE BROBECKER / IT / 78693

Langue: français.

Tuesday 2 March

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium, bldg 500*

The AMANDA South Pole neutrino telescope : first light

by Francis HALZEN / Univ. of Wisconsin, Madison,
USA

We will discuss the performance of natural Antarctic ice between 1 and 2 kilometer depths as a particle detector. We will present a preliminary analysis of the first year of data from a neutrino telescope which uses large volumes of ultra-transparent South Pole ice as a low-noise particle detector, sensing the Cherenkov light from neutrino-induced muons and electrons. This instrument is monitoring the sky for neutrinos from supernovae and gamma ray bursts. We are already performing a first search for neutrino emission from the most energetic cosmic processes involving pulsars, black

holes, active galactic nuclei and the like. The detector also has unique capabilities in searching for neutrino mass and dark matter. We will argue however that a high energy neutrino telescope should ultimately have an effective volume of order 1 kilometer cube and will present AMANDA's ongoing and future expansion.

Organiser : Jasper KIRKBY / EP Division

* Tea & coffee will be served at 16.00 hrs.

Wednesday 3 March

PS SEMINAR

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

Developments in high intensity linacs

by A. PISENT / INFN Laboratori Nazionali di Legnaro,
Padova, Italy

High intensity proton Linacs with beam power up to 100 MW are under study in various laboratories, mainly as drivers of subcritical reactors for nuclear waste transmutation or for energy production using the Energy Amplifier scheme. Applications to fundamental physics cover a broad spectrum: production of radioactive ion beams, increased beam brightness in LHC, neutrino factories and muon colliders. INFN is studying a proton linac (1 GeV 30 mA CW) based on superconducting 352 MHz elliptical cavities above 100 MeV. Design choices, prototyping program and some open problems will be discussed.

Organiser: B. Autin / PS

Wednesday 3 March

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room, bldg 4

Predictions from bilinear R parity violation for neutrino oscillations and LSP decays

by Ann NELSON / Washington University

The Bilinear R Parity Violating model is a well-motivated supersymmetric theory which makes unique predictions for neutrino masses and mixing. The decay length and branching ratios of the LSP are correlated with the solution to the solar neutrino problem, and with the results of future long baseline terrestrial searches for electron neutrino oscillations. I review the current evidence for neutrino oscillations, and some neutrino mass mechanisms and predictions.

Thursday 4 March

TECHNICAL PRESENTATION

at 10.30 hrs – IT Auditorium, bldg 31/3-004&5

A presentation on RAIMA data management technology

by Randy MERILATT & Wayne WARREN / Raima
Corporation, US

Raima technology is used world-wide as the basis for applications with demanding performance requirements. The flexibility of Raima's DBMS systems — stemming from flexible architecture and integration with C/C++ — are particularly attractive features of Raima's engines.

The agenda for the presentation is:

- data management in real-time environments.
- addressing VLDB (very large database) requirements.

- performance tuning at the levels of application code, database architecture, & network deployment.
- The Server Extension Tool kit.
- Combining application performance interfaces (APIs) for optimal performance.

Information: <http://www.raima.com>

Organiser : S. Cannon / IT / 75036

Thursday 4 March

THURSDAY SEMINAR

at 14.00 hrs – TH Conference Room, bldg 4

Gauge-fixed D-brane actions in superspace

by S. KETOV / ITP, University of Hannover

The supersymmetric Born-Infeld actions describing gauge-fixed D-5- and D-3-branes in ambient six-dimensional (6d) spacetime are constructed in superspace. A 6d action is the (1,0) supersymmetric extension of the 6d Born-Infeld action. It is related via dimensional reduction to another remarkable 4d action describing the N=2 supersymmetric extension of the Born-Infeld-Nambu-Goto action with two real scalars. Both actions are the Goldstone actions associated with partial (1/2) spontaneous breaking of extended supersymmetry having 16 supercharges down to 8 supercharges. Both actions can be put into the 'non-linear sigma-model' form by using certain non-linear superfield constraints. The unbroken supersymmetry is always linearly realised in our construction.

Jeudi 4 mars

SEMINAIRE PRESENTATION

de 14.00 à 17.30 h – Auditorium SL, bât. 864/1D-002

Contrôle par réseau de terrain WorldFIP

Applications industrielles et orientations futures

par Jean-Pierre FROIDEVAUX & Ercole GALLACIO

14.00 **Accueil**, par R.BRUN

14.10 **Présentation de WorldFIP**, par Jean-Pierre FROIDEVAUX

Nouveautés

1. WorldFIP TCP/IP
2. WorldFIP / HIGH Speed FieldBUS
3. Wireless Fieldbus

15.00 **Pause café**

15.25 **Présentation de la société Mii**, par Ercole GALLACIO

Architecture type

1. PC de développement sous Windows en liaison Ethernet/TCP/IP
2. Routeur Mii Ethernet / WorldFIP
3. Equipements "MicroBox" et logiciel d'application en liaison WorldFIP

Description de la communication

1. Mise en œuvre de TCP/IP sur WorldFIP
 2. Mise en œuvre de Telnet et WorldFIP
 3. Traitement des variables en temps réel
- Démonstration**
1. Développement sous OS-9 avec HAWK
 2. Téléchargement du code dans la cible
 3. Liaisons Telnet et FTP
 4. Mise au point du code source "C" à distance

17.00 **Questions et réponses**

17.30 **Clôture**

Nota:

1. Toutes les personnes intéressées par les réseaux de terrain "temps réel", les automates Schneider, Siemens et autres seront les bienvenues.
2. Site WorldFIP-CERN : <http://nicewww.cern.ch/sl/rfgroup/fip/fipmenua.htm>

Raymond BRUN/SL-RF/76946/Linkman WorldFIP CERN

E-Mail : Raymond.Brun@cern.ch

Friday 5 March

CERN LABVIEW USER GROUP MEETING

at 09.00-12.30 hrs – LHC Auditorium, bldg 30/7-018

09.00 Introduction: Stefano Zanetti, NI-CH

09.10 New LabVIEW 5.1 & BridgeVIEW 2.1 features: Stefano Zanetti and Herve Baour, NI-CH

10.20 User Presentation

10.40 *Break*

11.00 ActiveX/COM, VI server and DataSocket: Stepan Riha, LabVIEW R&D, NI-USA,

11.20 LabVIEW-RealTime: Vance Carter, NI-CH

11.40 User Presentation

12.00 Tip and Tricks: Stefano Zanetti and Herve Baour, NI-CH

12.20 Conclusion & Questions

Pierre Baelher IT/CO-SI (75016 - labview.support@cern.ch)

Friday 5 March

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room, bldg 4

A light SUSY Higgs of 205 GeV?

by Manuel MASIP / Universidad de Granada, Spain

I discuss the upper bound on the mass of the light Higgs (m_h) in SUSY models. In particular, I focus on the models with Higgs triplets, where there are new couplings with the doublets that could raise this bound up to 205 GeV. The effect on m_h of the new couplings, however, competes with the mixing of the triplets with the doublets in the neutral Higgs mass matrix, which tends to decrease m_h . I show that both effects can be understood by integrating the triplets out and analyzing the effective two-Higgs doublet model that results. I find that the upper bound on m_h in these models is only achieved in a very definite region of the parameter space, where radiative corrections decrease the bound to approx 190 GeV.

Friday 5 March

CERN HEAVY ION FORUM

at 14.00 hrs- Conference Room 160-1-009

The Three Pillars of Little Bang Theory

by Ulrich HEINZ / TH Division

The goal of the relativistic heavy ion program is to recreate the Big Bang in the laboratory, by generating small chunks of exploding quark-gluon plasma ("The Little Bang"). I argue that the analogues of the three pillars of Big Bang Theory (Hubble flow, microwave background radiation and primordial nucleosynthesis) have now all been firmly established in heavy-ion collisions at SPS energies: there is convincing evidence for strong radial flow, thermal hadron

emission, and primordial hadrosynthesis from a color-deconfined initial stage. Direct observation of the quark-gluon plasma phase via its electromagnetic radiation requires higher temperatures and will be possible in planned collider experiments at higher energies.

Organisers: Yiota Foka and Carlos Lourenco
Info: <http://home.cern.ch/a/alicedoc/www/chic/>

Tuesday 9 March

IT INFORMATICS TUTORIAL

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

Techniques for efficient Web Searching

by Dariusz KOGUT / IT Division

Finding relevant information in the Internet has become difficult due to the explosive growth of the amount of documents on the Web.

We need to use specific search tools that explore our intranets and help us retrieve the information we are looking for, like a friendly librarian in a big library.

WWW documents must be well written and classified in order to be easily retrievable. In this tutorial we will explain:

- How does a Web Search engine work?
- How to search (the syntax)?
- How to create a web page that will be correctly indexed?
- Comparison of popular search engines
- The features of our engine (by Infoseek)
- Examples of search cases typical to the CERN Intranet

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

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

Tuesday* 9 March

CERN COLLOQUIUM

at 16.30 hrs – Auditorium, bldg 500**

The future of oil and hydrocarbon man

by Colin J. CAMPBELL / M.A., D. Phil., M. Inst. Petroleum, FGS

Man appeared on the Planet about four million years ago, and by 1850 numbered about one billion. Then came Hydrocarbon Man. World population has since increased six-fold.

After the oil price shocks of the 1970s, people asked "Are we running out of oil?". A better question would have been "When will production peak?". It is not easy to answer this question because of the very poor database. Reserves and the many different hydrocarbon categories are poorly defined; reporting practices are ambiguous; revisions are not backdated; and there is no audit. Many vested interests have motives to obscure the true situation.

Nevertheless, it is possible to interpret public data to determine within limits the amount and dates of past discovery. It is also possible to extrapolate past discovery to indicate how much is yet to find and to make a rational model of future production.

Such a study points to a two-phased crisis. The first is another price shock, as the growing share of Middle East supply passes a certain threshold in the early years of the next century. The second marks the onset of long term decline about ten years later when more than half of the world's supply has to come from the Middle East and it too approaches its depletion midpoint.

Given the world's dependence on cheap oil-based energy, the peak of production will likely mark an historic

discontinuity with colossal political, financial, and economic consequences. It marks the decline of Hydrocarbon Man who will be virtually extinct by the end of the 21st Century. Much can be done to ameliorate the tensions, but time is short and planning absent. Nevertheless, new recognition of the situation by Establishment institutions is a very promising beginning.

Organiser : Luigi DI LELLA / EP Division

* Please note unusual day.

** Tea & coffee will be served at 16.00 hrs.

Wednesday 10 March

TECHNICAL PRESENTATION

09.30-15.00 hrs – bldg 40/R-D10

Vacuum Components specially designed for High Energy Physics

by N. FEND / EVAC AG (CH)

Items on demonstration:

General Vacuum Components; Flanges and Fittings made of Stainless Steel, Aluminium and Glass, available for ISO-KF, ISO-K and CF

Elastomer/Metal Seals; made of Viton, PTFE, FEP, Al, Cu, Ni, etc...

Special Vacuum Components; with EVAC-designed tapered flanges for ISO-K and CF

Quick Release Chain Clamps; made of different materials to meet customers applications.

New! New! New!

All Aluminium UHV Components; Flanges, Fittings, Seals and Chain Clamps totally made of Aluminium (ISO-KF, ISO-K and CF) suitable for Cryogenics and High Energy Physics Applications.

Clamp Screws; Specially designed for ISO-K metal seals (Stainless, Al, antimagnetic) suitable for Accelerators.

Intermediate Adapter Seals; for direct couplings of ISO-KF to CF-flanges without adapters.

Special Chain Clamp; manually operated (tool less) quick release chain clamp designed for fast time saving couplings.

Language: French, English, German

Information: S. Shearer / SPL-PS/76360

Thursday 11 March

LHC PROJECT SEMINAR

at 14.15 hrs – PS Auditorium*, bldg 6/2-024

Quench Protection at HERA

by Karl-Hubert MESS / DESY

The operation of the 916 GeV proton accelerator and storage ring HERA started almost nine years ago. During this time the quench protection has worked reliably and satisfactorily. The underlying principles of the HERA quench protection system will be explained and some technical solutions will be addressed. Operational experience in the past has led to the addition of a distributed beam loss monitoring system that was able to reduce the number of quenches considerably by ejecting the beam into the dump instead of the magnets. Likewise a transient recording system was implemented to improve the diagnostic tools.

Operational experience with the systems and their actual performance will be discussed.

* Please note the unusual place!

Friday 12 March

IT INFORMATICS TUTORIAL

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

An Overview of the ESA Software Engineering Standards

by Fernando NUNEZ-BENITO / IT Division

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

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

POUR INFORMATION / FOR INFORMATION

LAPP – Laboratoire d'Annecy de physique des Particules
F 74941 – Annecy-le-Vieux

Informations : Pascal Perrodo, tél. 04 50 09 16 00

Vendredi 5 mars

à 14.00 h – Amphithéâtre du LAPP

Test de la non localité quantique sur 10 km

par Wolfgang TITTEL / Université de Genève

Une des plus grandes victoires de la physique de ce siècle est certainement le développement d'une théorie qui décrit

le comportement des quanta. Depuis le début, la mécanique quantique a entraîné des discussions abondantes concernant son interprétation. Par exemple, les états dits «enchevêtrés», suite logique du principe de la superposition, entraînent des interactions non locales -le résultat d'une mesure «ici» dépend de façon instantanée du résultat d'une mesure qui se passe «là-bas». Afin d'éviter cette propriété «bizarre» il a été suggéré de compléter la mécanique quantique avec une sous-structure, les variables cachées. En 1964, Bell a démontré que les prédictions pour une mesure de corrélations sur un système à deux particules diffèrent si calculées à l'aide d'une théorie à variables cachées ou si basées sur la mécanique quantique. De nombreux tests ont été effectués jusqu'à présent, démontrant de façon de plus en plus précise que la nature est en effet non locale. Dans cet exposé, je dériverai les inégalités de Bell et ensuite expliquerai comment tester ces inégalités en utilisant des photons «enchevêtrés» en énergie et en temps. J'aborderai les problèmes expérimentaux que l'on rencontre lors de l'utilisation des fibres optiques. Puis j'expliquerai les solutions que nous avons choisies et enfin présenterai les résultats que nous avons obtenus dans une expérience de Bell sur une distance de 10 km. Pour conclure, je discuterai quelques perspectives ouvertes par le fait que les corrélations quantiques se maintiennent sur grandes distances.

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 ACADEMIQUE ACADEMIC TRAINING

F. Benz Secretariat ☎ 73127
francoise.benz@cern.ch

ACADEMIC TRAINING

LECTURE SERIES

3, 4, 5 March

from 11.00 to 12.00 hrs – Auditorium, bldg 500

Introducing bioinformatics, the biosciences' genomic revolution

by P. ZANELLA / EMBL, Hinxton, UK

The general audience for these lectures is mainly physicists, computer scientists, engineers or the general public wanting to know more about what's going on in the biosciences.

What's bioinformatics and why is all this fuss being made about it ?

What's this revolution triggered by the human genome project ?

Are there any results yet ?

What are the problems ?

What new avenues of research have been opened up ?

What about the technology ?

These new developments will be compared with what happened at CERN earlier in its evolution, and it is hoped that the similarities and contrasts will stimulate new curiosity and provoke new thoughts.