

COMPOSITION DE LA COMMISSION PARITAIRE CONSULTATIVE DE DISCIPLINE

Exercice 1997-1998

COMPOSITION OF THE JOINT ADVISORY DISCIPLINARY BOARD

1997-1998 Exercise

Nommés par le Directeur général
Appointed by the Director-General

Nommés par l'Association du Personnel
Appointed by the Staff Association

Membres / Members

Jean BOILLOT / PS

Michel BONNET / PPE

1ers suppléants / 1st deputies

Manfred HÖFERT / TIS

Irene SEIS / IT

2èmes suppléants / 2nd deputies

Achille PETRILLI / AS

Daniel BOIMOND / PS

Messieurs Boillot et Bonnet ont établi comme suit la liste des membres du personnel titulaires parmi lesquels sera choisi le Président de la Commission chaque fois qu'un cas se présentera :

Messrs. Boillot and Bonnet have drawn up the following list of staff members from among whom the Chairman of the Board may be chosen when required :

Alan BLYTHE / PE

Brigitte LORENZ / AS

Jean-Claude BRUNET / LHC

Henri PINEY / SPL

Wisla CARENA / ECP

Jean-Pierre POTIER / PS

Per GRAFSTRÖM / SL

Christian SERRE / PS

Pier Giorgio INNOCENTI / ECP

Mette STUWE / PPE

Division du Personnel

Tél. 74128

Personnel Division

Tel. 74128

SEMINARS SEMINAIRES

Vous pouvez aussi consulter

For information on these seminars, please see

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

Monday 12 January

SEMINAR

14.00 to 16.00 hrs – bld. 40, SS-C01

System Monitoring of Level-0 Trigger electronics

by Dario CROSETTO / Rice University, Houston, USA

The System Monitoring of the Level-0 trigger based on the 3D-Flow trigger system will be described along with a demonstration on real hardware.

The Monitor System allows faulty components or connections in the trigger system to be detected through rs232 ports, each running up to 230,400 baud, and at the cost of \$7/trigger channel. It consists of two hardware implementations in VME bus and PCI bus, both running under the Windows NT Operating System to control 128 trigger channels. Comparison of cost, reliability and performance will be shown between the two systems.

The 3D-Flow processor and trigger system were designed by Dario Crosetto, who is supported by the US Department of Energy. The chip is currently being synthesized by Synopsys and is in the fabrication process. The system is suitable for use with several different types of subdetectors e.g. calorimeters and muon detectors. At least three different Level-0 trigger algorithms will be shown.

Monday 12 January

COSMOLOGY MEETING

at 14.00 hrs – TH Conference Room

Primordial hypermagnetic fields and triangle anomaly

by Mikhail SHAPOSHNIKOV / CERN/TH

The high-temperature plasma above the electroweak scale ~ 100 GeV may have contained a primordial hypercharge magnetic field whose anomalous coupling to the fermions induces a transformation of the hypermagnetic energy density into fermionic number. We show that a non-homogeneous hypermagnetic background induces fermion number fluctuations. We argue that, depending upon the various particle physics parameters and upon the hypermagnetic energy spectrum, sizeable matter – antimatter fluctuations can be generated in the plasma. These fluctuations may modify the predictions of the standard Big Bang nucleosynthesis. We analyse the influence of primordial magnetic fields on the electroweak phase transition and show that some specific configurations of the magnetic field may be converted into net baryon number at the electroweak scale.

Wednesday 14 January

PS SEMINAR

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

Optical transition radiation (OTR) for emittance measurements

by Alessandro VARIOLA / LAL, Orsay (France)

For LHC and linear colliders as well, a very precise measurement of beam emittance is required. Among several possible technologies, optical transition radiation (OTR) is a very interesting tool since there is no energy threshold and the emission time is very short. Basic research on OTR has recently been performed with electron beams. The OTR resolution and the validity of the $\gamma\lambda$ limit have been tested at 2 GeV using the Orsay linac. OTR was also experimented at low energy in the Tesla Test Facility (TTF) and transverse beam sections have been analysed every microsecond in the bunch train. Bunch length dependence with RF phase has been measured by Cerenkov radiation associated with a streak camera. It will also be shown how imaging techniques can give on-line information on various aspects of beam dynamics.

Organiser: Bruno Autin

Wednesday 14 January

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

Title to be announced

by Juan GARCIA-BELLIDO / CERN

Thursday 15 January

LARGE HADRON COLLIDER COMMITTEE

Open Session

(please note change from preliminary announcement)

at 09.00 hrs – Auditorium

- | | |
|-------------|--|
| 09.00–09.10 | Status of the LHC project (C. Llewellyn Smith) |
| 09.15–10.00 | Status of the LHC machine (L. Evans) |
| 10.15–10.35 | Coffee break |
| 10.35–11.35 | CMS Muon Project Technical Design Report (F. Gasparini, G. Mitselmakher, G. Iaselli) |
| 11.45–12.45 | CMS Electromagnetic Calorimeter Project Technical Design Report (H Hofer, J.-L. Faure, P. Denes, C. Seez). |

Thursday 15 January

THURSDAY SEMINAR

at 14.00 hrs – TH Conference Room

D-branes and gauge theories: from six to four dimensions

by Alberto ZAFFARONI / CERN/TH

It has been recently realized that six-dimensional gauge theories may have a much richer behaviour than expected. One of the crucial input from string theory is that we can find theories which are at an interacting fixed point at strong coupling. We show how to construct and study these RG fixed points with configuration of branes in type IIA string theory. New fixed points associated with (enhanced) E_n global symmetries are discovered by taking the strong string coupling limit. The relation with the theories of small $SO(32)$

and $E_8 \times E_8$ instantons is discussed. We show also that the same technology needed for six-dimensional models can provide the basic building blocks to realize chiral four-dimensional gauge theories.

Thursday 15 January

LHC PROJECT SEMINAR

at 14.15 hrs – LHC Auditorium, bld. 30/7th floor

The Physics Agenda for the LHC

by John ELLIS / CERN-TH

This seminar is intended for engineers and physicists who are not specialists in High Energy Physics.

Monday 19 January*

DETECTOR SEMINAR

at 11.00 hrs – Conference Room, bld. 13/2-005

CdTe & CdZnTe spectrometers for X-rays and Gamma-rays

by Arie RUZIN / Technion Haifa & CERN

In recent years, an extensive research is being conducted in search for room temperature operated semiconductor detectors and energy spectrometers for photons with energies up to ~ 1 MeV. CdTe and CdZnTe are compound semiconductors from the II-VI group materials (compound of elements in the columns II and VI of the periodic table). The high atomic numbers of the elements and the wide energy bandgap of the semiconductors make these materials particularly advantageous for detection of photons up to several hundred keV at room temperature.

Recent research results will be presented concerning different Metal-Semiconductor-Metal (MSM) device structures. Evaluation of electrical properties of the semiconductors via charge collection modelling and energy spectroscopy measurements and the importance of passivation in these wide bandgap materials will be illustrated. Noise power spectral densities will be discussed.

**Please note change of date!*

Tuesday 20 January

SPS AND PS EXPERIMENTS COMMITTEE

Open session

at 09.00 hrs – Auditorium

1. Status report from NA45 : J. Stachel
2. Status report from NA49 : P. Seyboth
3. Status report from NA50 : L. Kluberg
4. Status report from NA52 : K. Pretzl
5. Status report from NA57 : F. Antinori.

Closed session

after the open session, to be continued on
Wednesday 21 January at 09.00 hrs if necessary,
6th floor Conference Room.

Tuesday 20 January

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium*

Search for Neutrino Oscillations with the NOMAD Detector

by Achim GEISER / CERN-PPE

NOMAD is a general purpose electronic neutrino detector designed to study ν_μ - ν_τ oscillations in the appearance mode in the CERN wide band neutrino beam. The production of τ leptons can be identified using kinematic criteria. The results from the 1995 data for all τ decay channels are presented, together with a status report on the analysis of the 1996 and 1997 data. Through its excellent electron identification, NOMAD is also sensitive to ν_μ - ν_e oscillations. Measuring the e/m ratio as a function of neutrino energy, NOMAD can exclude a large fraction of the region needed to describe the recent LSND result.

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

Wednesday 21 January

PS SEMINAR

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

Progress Towards the Next Linear Collider

by Ronald RUTH / SLAC, USA

During the past several years there has been an active development program at SLAC towards an electron positron linear collider optimised at 1 TeV center of mass, the 'Next Linear Collider'. This work has encompassed accelerator physics issues and technology issues throughout the entire linear collider complex. A critical part of this development has been the work on the acceleration system for the main high-energy linac. The main linac is an 11.4 GHz linac driven by high power klystrons and RF pulse compression systems. This work has recently been brought together in an 11.4 GHz test accelerator, the NLC Test Accelerator. The NLCTA provides system tests of the acceleration technology as well as beam tests of critical issues for the NLC. Recent results and development at NLCTA will be emphasized.

Organiser: Bruno Aurin

Jeudi 22 janvier

SEMINAIRE PROJET LHC

à 14.15 h – Amphithéâtre LHC, bât. 30/7e ét.

L'état d'avancement du projet LHC

par Lyndon EVANS / Chef du projet LHC

Ce séminaire est une répétition du séminaire présenté en novembre dernier.

Il sera donné en français et s'adresse à un large public sans connaissances spécifiques.

Thursday 22 January

CERN COLLOQUIUM

at 16.00 hrs* – Auditorium**

Psychophysics of Musical Consonance (With Demonstration Experiments)

by H.G. DOSCH & H.J. SPECHT / Heidelberg University

Musical consonance and dissonance can, to a large extent, be traced back to basic, non-musical principles of auditory perception. The underlying physical, physiological and psychological phenomena appear to co-operate in two rather independent ways. One, first investigated by H.V. Helmholtz, is related to the perception of roughness (fast unresolved beats) among the partials of complex tones. The other one is related to the unique role of harmonic partials as a basic element of pitch perception (pattern recognition). We introduce the most important phenomena in a series of experiments and discuss their present theoretical understanding; we also include new psycho-acoustical data with high statistics obtained recently in Heidelberg. Besides using modern techniques, the experiments contain some demonstrations of original Helmholtz apparatus.

* Please, note unusual time.

**Tea & coffee will be served at 15.30 hrs.

FOR INFORMATION / POUR INFORMATION

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Wednesday 14 January

PARTICLE PHYSICS SEMINAR

at 17.00 hrs – Stückelberg Auditorium

W Boson Production at LEP

by Alfons J.G. WEBER / CERN-PPE

Since 1996 LEP is running for the first time at energies above 161 GeV allowing for the first time the pair production of W bosons at a e^+e^- collider. Using this data, published and preliminary measurements from the four LEP experiments of the W mass and triple-gauge-boson coupling parameters will be presented.

LAPP – Laboratoire d'Annecy de physique des Particules

F74941 – Annecy-le-Vieux

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

Friday 16 January

PARTICLE PHYSICS SEMINAR

at 14.00 hrs – LAPP Auditorium

Electronique et optoélectronique ultrarapides

by Jean-Louis COUTAZ / Université de Savoie

Ce séminaire présentera les recherches effectuées au sein du LAHC (Laboratoire d'hyperfréquences et de caractérisation) sur les circuits et les matériaux pour l'électronique ultrarapide. Les fréquences des signaux mises en jeu vont du GHz à quelques THz, ce qui correspond à des événements temporels dont la durée s'étend de la nanoseconde au domaine sub-picoseconde. On décrira tout d'abord les méthodes d'étude des hyperfréquences, puis les méthodes optoélectroniques basées sur l'utilisation de laser femtoseconde (spectroscopie THz, échantillonnage électro-optique), enfin les méthodes mettant en jeu des circuits micro-ondes non linéaires (ondes de choc, solitons électriques). Différents exemples d'études de circuits (lignes de transmission, résonateurs) et de matériaux (semi-conducteurs III-V non stoechiométriques, silicium poreux, matériaux à bande photonique interdite) seront présentés.