

SEMINARS SEMINAIRES

Pour de plus amples informations, prière de consulter
For full information on these seminars, please see
<http://wwwas.cern.ch/Bulletin/Seminars/current.html>

Monday 17 March

DETECTOR SEMINAR

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

GEM: The Gas Electron Multiplier

by Fabio SAULI / CERN-PPE

We describe the basic structure and operation of a new device, the Gas Electron Multiplier. Consisting in a polymer foil, metal-clad on both sides and perforated by a high density of holes, the GEM mesh allows to pre-amplify charges released in the gas with good uniformity and energy. Coupled to a micro-strip plate, the pre-amplification element allows to preserve high rate capability and resolution at considerably lower operating voltages, thus completely eliminating discharges and instabilities. Several GEM grids can be operated in cascade; charge gains are large enough to allow detection of signals in the ionization mode on the last element, permitting the use of a simple printed circuit as read-out electrode. Two-dimensional read-out can then be easily implemented. A new generation of simple, reliable and cheap fast position sensitive detectors seems at hand.

Tuesday 18 March

COSMOLOGY MEETING

at 11.00 hrs – TH Conference Room

Some aspects of black holes in string theory

by Gautam MANDAL / TIFR, Bombay

The talk has 3 parts: (i) Classical absorption: we consider the D-brane model of black holes and ask why these objects only absorb and do not emit particles classically. We discuss the reason and compute the absorption cross-section from the D-brane S-matrix which agrees with our computation of the same quantity using classical gravity. (ii) Black hole hair: we discuss the issue of observability of quantum numbers of an electrically charged string theoretic black hole by scattering with probe strings and show that indeed the complete state can be determined from the S-matrix which can be interpreted as a measurement of stringy backgrounds. (iii) Non-renormalization properties of large black holes: the agreement of the string entropy and black hole entropy is typically strongly influenced by considerations of supersymmetry. We discuss some preliminary computation of one-loop mass correction of certain non-supersymmetric electrically charged black holes, and show that the mass correction vanishes in the limit of large mass of these black holes.

Wednesday 19 March

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

Flavour physics, flavour symmetries, supersymmetry and unification

by Riccardo BARBIERI / University of Pisa

Flavour physics is of relevance, directly or indirectly, to the search for signals of supersymmetric unification. Within

this general context I describe a model of flavour and I spell out its experimental consequences. They concern B- and K-physics, Lepton Flavour Violation and the electric dipole moments of the electron and of the neutron.

Wednesday 19 March

COMPUTING SEMINAR

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

Using Windows NT as a production environment (RD47)

by Christos GEORGIPOULOS / CERN-PPE

The experience gained over the last year with the INTEL Windows NT farm at SCRI, Florida State University will be discussed. The code development environment and the porting of the CMS simulation program (CMSIM), a survey of commercial batch systems and the utilization of the farm for production of CMS Monte Carlo events using Batch Job Services from Camelia software will be presented.

Organiser : G.Folger / IT

Thursday 20 March

LHC TECHNICAL SEMINAR

at 16.00 hrs – LHC Auditorium, bldg. 30, 7th fl.

Transient behaviour and helium recovery in the LHC cryogenic system following magnet resistive transitions

by M. CHOROWSKI / CERN-LHC

A resistive transition (quench) of the Large Hadron Collider magnets will be followed by the discharge of helium from the magnet cryostats to the helium recovery system. The basic elements of the system are: a vacuum insulated line and uninsulated medium-pressure gas storage tanks. Helium recovery also implies specific procedures that should follow a quench, in order to conserve helium and make use of its refrigeration capability. The amount of thermal energy transferred to the helium leaving the cold mass after a quench of a string of LHC magnets has been estimated on the basis of experimental data obtained on the prototype string of magnets. The helium thermodynamic conditions in the LHC recovery system are calculated. The LHC magnet quenches are classified in a parametric way from their cryogenic consequences. Finally, a configuration of the helium recovery system and procedures that should follow the quench are proposed.

Thursday 20 March

CERN COLLOQUIUM

at 16.30 hrs – Auditorium *

On the Representation of Space and Time in the Brain

by K. HEPP / Instit. for Theor. Physics, E.T.H. Zurich

In the 18th century Kant considered space and time to be hard-wired 'a priori' structures in the brain which are necessary for a coherent perception of external objects and internal events. Although the invocation of Euclidean geometry and innateness are obsolete since Helmholtz and

Experimental neurobiology, the modern study of sensorimotor integration in the central nervous system has given a very complex picture of the representation of space and time in the brain. The present 'standard model' explains the unity of space perception by a network of coordinate transformations between the sensory surfaces (vision, audition, vestibular and somatosensory proprioception) and the effectors (eye/head, arm/hand...). FOR A GENERAL AUDIENCE we shall discuss theoretical concepts and experimental support for this view and of a recent, much less static picture of the brain as an exquisitely time-dependent dynamical system.

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

Friday 21 March

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room

Bottom quark mass and α_s from the Upsilon system

by Matthias JAMIN / University of Heidelberg

The mass of the bottom quark and the strong coupling constant α_s are determined from QCD moment sum rules for the Upsilon system. Two analyses are performed using both the pole mass M_b , as well as the mass m_b in the $\overline{MS}$ -bar scheme. In the pole mass scheme large perturbative corrections resulting from Coulombic contributions have to be resummed. In the $\overline{MS}$ -bar scheme this can be avoided by an appropriate choice for the renormalization scale. For the bottom quark mass we obtain $M_b = 4.60 \pm 0.02$ GeV and $m_b(m_b) = 4.13 \pm 0.06$ GeV. Our combined result from both determinations for the strong coupling is $\alpha_s(M_b) = 0.119 \pm 0.008$.

Friday 21 March

SEMINAR FOR CERN GUIDES

at 16.00 hrs – Auditorium

Responsibility of scientists

by Gert G. HARIGEL / CERN (retired)

This seminar is intended to give some practical help for CERN guides, who are confronted with questions from visitors concerning the purpose of research in general and - in particular - of the work in our laboratory, its possible application and benefits. The dual use of scientific results will be emphasised by examples across natural sciences. Many investigations were neutral, others aimed at peaceful and beneficial use for humanity, a few were made for destructive purposes. Researchers have no or very little influence on the application of their results. The interplay between natural scientists, social scientists, politicians, and their dependence on economic factors will be discussed.

Monday 24 March

TECHNICAL PRESENTATION

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

Scientific Software for Windows and Mac

by Catriona GALBRAITH / Development Manager, Cherwell Scientific

Cherwell Scientific publish and distribute a range of software for scientific applications. Shown today will be: "ModelMaker": A new version of an easy-to-use, Windows-based numerical simulation modeling program.

ModelMaker lets you visualize your model and quickly alter parameters to test the effects of change.

"EasyPlot": Windows-based data analysis and graph plotting package focusing on graphical results and plotting experimental data.

"Prism": Windows-based data analysis and graph plotting package, focusing on data presentation, statistics and curve-fitting.

"pro Fit": A Mac-based data analysis and graph plotting package with the ability to add powerful user-defined external modules.

Information will also be available about other products for chemistry (gNMR, ChemSymphony) and bibliography management (EndNote). There will be an opportunity for a hands-on demo of each program. We would also be interested to meet with anyone who has developed scientific software that may have commercial potential.

For more information : <http://www.cherwell.com/cherwell>

Organiser : S. Cannon / IT / 75036

Monday 24 March

PPE SEMINAR

at 16.30 hrs – Auditorium*

(No longer rare) charmless hadronic B decays at CLEO

by Frank WUERTHWEIN / California Inst. of Technology

Several new branching fraction measurements for B decays to two charmless pseudoscalar mesons are presented. These measurements are then discussed in the context of flavor symmetry relationships, as well as factorization and CLEO's published $B \rightarrow \pi\pi$ branching fraction.

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

Tuesday 25 March

SPS AND PS EXPERIMENTS COMMITTEE

at 09.00 hrs – Auditorium

Open session

1. The production and study of cold antihydrogen (SPSC 97-8/P306): G. Gabrielse. 30 min
2. Low-energy antiprotons for atomic, nuclear, gravitational, and applied physics (Los Alamos Lab., Warsaw Univ., Aarhus Univ., Genova Univ. and INFN, Stuttgart Univ., Pennsylvania State Univ., Tokyo Univ.; SPSLC 96-48/P303 REVISED): H. Knudsen. 30 min
3. Status report from NA48 : H. Blümer. 30 min
4. Status report from SPY (NA56) : S. Ragazzi. 30 min

Closed session

after the open session, to be continued on Wednesday 26 March at 09.00 hrs, 6th floor ConferenceRoom.

Tuesday 25 March

TECHNICAL PRESENTATION

at 09.00 hrs – IT Auditorium, bldg 31/3-004-5

FPGA synthesis tool Renoir/Exemplar (Galileo & Leonardo)

by D. YERLY & H.-P. STEINEMANN / Mentor Graphics (CH)

Information : P. Baehler, IT/75016, S. Broecker, IT/78693

Organiser : S. Cannon / IT / 75036

Tuesday 25 March

TECHNICAL PRESENTATION

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

Digital Switches Family Presentation

by K. BAKER / Field Product Marketing Manager
(NPBU), Digital Equipment Corporation.

Organiser : S. Cannon / IT / 75036

Tuesday 25 March

ERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium

Recent Results from DZero at the Tevatron

by Darien WOOD / Northeastern University, Boston

POUR INFORMATION / FOR INFORMATION

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Tel. 022 702 6273, Fax. 022 781 2192

Friday 21 March*

PARTICLE PHYSICS SEMINAR

at 17.00 hrs – Stückelberg Auditorium

**A Preliminary Result for the W mass using
W → $\mu\nu$ decays at CDF**

by Andrew GORDON / Harvard Univ., Cambridge, MA

In the latest collider run at Fermilab, approximately 80 pb⁻¹ of data were collected at both D0 and CDF. This represents approximately a fourfold increase in statistics from the previous run. A preliminary analysis of CDF data using W → $\mu\nu$ decays will be presented. This measurement of the W mass will also be compared to previous CDF measurements. Since many systematic errors can be constrained by data, the improvement in the error is expected to scale with the improvement in statistics.

** Please note unusual day!*

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

**FORMATION EN LANGUES
LANGUAGE TRAINING**

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**SELF LEARNING IN FRENCH
NEW !!!**

**Open to everyone, whether or not you are already following
a General French course.**

Access to the Resource Centre

With a view to working autonomously, we offer non-beginners access to the equipment and pedagogical material in the Resource Centre in Meyrin (and in Prévessin for the SL Division).

We have books, audio cassettes, videos and multimedia:

- to improve
- listening,
- telephoning,
- reading,
- grammar,
- spelling,
- vocabulary,
- pronunciation;
- to prepare for the DELF, "diplôme d'études de langue française" (except the oral component).

Duration: 3 months.

Price: CHF 250, including access and a presentation of the material.

VIFAX

This method is specifically aimed at improving listening skills, on an autonomous basis. The video material is taken from F2 and TSR.

Users will have at their disposal in the Resource Centre in Meyrin (and in Prévessin for the SL Division) recordings of the news programmes, twice a week. For two of the news items, there are three documents per item: exercises, the answers and the transcript.

The user should allow between 30-60 minutes per day depending on his/her level.

This method is open to intermediate level users.

Duration: 10 weeks (20 news programmes).

Price: CHF 200.

If you would like to have a presentation of the material or to arrange a visit of the Resource Centre, please contact Moniek Laurent, tel: 78143.