

SEMINARS

SEMINAIRES

Monday 3 October

PPE SEMINAR

at 16.30 hrs – Auditorium

Measurement of $G(Z^0 \rightarrow b\bar{b})/G(Z^0 \rightarrow \text{hadrons})$ by OPAL

by Masahiro MORII / University of Tokyo

The OPAL collaboration has measured the fractional hadronic decay width of Z^0 into bottom quarks using the data collected in 1992 and 1993. The presence of electrons or muons from semileptonic decays of bottom hadrons and the detection of bottom hadron decay vertices were used together to enrich $Z^0 \rightarrow b\bar{b}$ events. The systematic error of the measurement was reduced by the use of a double-tagging technique in which the selection efficiency for $b\bar{b}$ events was obtained from the data by a combination of the numbers of events having a bottom signature in either one or both thrust hemispheres. A value of $\Gamma(Z^0 \rightarrow b\bar{b})/\Gamma(Z^0 \rightarrow \text{hadrons}) = 0.2171 \pm 0.0021 \pm 0.0021$ was obtained where the first error is statistical and the second systematic. A $\pm 8\%$ fractional variation of the decay width $\Gamma(Z^0 \rightarrow c\bar{c})$ about its Standard Model prediction would result in an additional error of ± 0.0015 .

Tuesday 4 October

TECHNICAL PRESENTATION

at 10.00 hrs – CN Auditorium

bldg 31/3-005

Introduction to DADiSP, the productivity software for scientists & engineers

by Matt STEVENS / Cle.Com Ltd. UK,
David A. KEENAN / DSP Corp USA,
& David REED / Cle.Com Ltd. France

The presentation will start with an Introduction to DADiSP, the Productivity Software for Scientists and Engineers, and will be followed by a demonstration of DADiSP, the powerful, visually oriented software package for the Display, Management, Analysis and Presentation of Scientific and Technical data. Widely accepted in North America, DADiSP has won many prestigious awards, including Industry Excellence Awards from IEEE Computer Graphics, NASA Tech Briefs and Scientific Computing and Automation. After the demonstration you will have the opportunity to ask questions, request further information and, if a current user, have your version upgraded to the latest release for special terms that will be made available to CERN.

Organizer : S. Cannon / CN / 5036

Wednesday 5 October

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

New signals for supersymmetric unification

by Lawrence HALL / University of California, Berkeley

The direct signals of grand unification are usually taken to be baryon and lepton number violation, as exemplified by proton decay and neutrino masses. I argue that lepton flavour violating processes, such as $\mu \rightarrow e \gamma$, $\mu \rightarrow e$ conversion and $\tau \rightarrow \mu \gamma$, provide better tests of superunification because:

- 1) The rates can be more reliably calculated;
- 2) For slepton masses of 100 GeV the rates are just one order of magnitude beneath present experimental bounds;
- 3) These large rates are generic to a very wide class of models.

Wednesday 5 October

BOOK LAUNCH

at 16.00 hrs – Council Chamber

'The human race has always wanted to look beyond the horizon, to see what is out there... On either side of us the Universe has structure on scales many billions of times bigger and smaller than our own. Because this range is not quite infinite, there is hope that we may one day completely understand this structure from the very smallest to the very largest.... The only thing that seems to be unbounded is the power of reason,' says Stephen Hawking in his introduction to the new illustrated book (which features CERN's work and several CERN personalities)

The Search for Infinity

by Gordon Fraser (CERN), Egil Lillestøl (CERN) and Inge Sellevåg, Published by Mitchell Beazley (London) 1994, Facts on File (New York) 1995.

Copies will be on sale at CERN for 30 Swiss Francs, less than the UK retail price of £16.99

Jeudi 6 octobre

PRESENTATION TECHNIQUE

10.00-12.00 h et 13.30-16.00 h – bât. 17/1-007

Vannes et accessoires, soupapes de sûreté pour usages industriels

par Alfa Ingenieurbüro AG (CH)

Vannes papillon Keystone (NL) pour liquides, vapeurs et gaz (du vide à 250 bar, de -250°C à $+800^\circ\text{C}$), actionneurs pneumatique/électrique ainsi que régulateurs électropneumatique Keystone (UK), vannes à boule Atomac (D) pour produits agressifs (recouvertes FEP/PFA), vannes à boule Mécafrance (D/F) acier inox, pour liquides et gaz (pour vide $< 10^{-7}$ et 97 bar, -200°C à $+200^\circ\text{C}$), soupapes de sécurité Thies (D), soupapes de sécurité AGGO (de 2,2 mbar à 500 bar, -250°C à $+450^\circ\text{C}$), programme Yarway (USA) vannes automatiques de protection des pompes et désurchauffeurs de vapeur, etc. Langues : allemand, anglais et français.

Renseignements : M. Diraison / FI-A / 4585

Thursday 6 October*

PS SEMINAR

at 16.00 hrs* – PS Auditorium

Research and development on high energy linear colliders in Japan

by Junji URAKAWA / KEK

It is intended at KEK to build an electron-positron collider with a CM energy included between 300 and 500 GeV. This machine, called JLC-1, would be the first phase of the higher energy collider JLC. In parallel with the design of JLC1, experimental developments are pursued with the test facility ATF in order to reach the necessary accelerating gradients and beam emittances. The general features of JLC1 and the recent results obtained with ATF will be described.

* Please note unusual date and time!

Monday 10 October

DETECTOR SEMINAR

at 11.00 hrs – ECP Conference Room

bldg 13/2-005

Performance of a 3000 channel scintillating fibre tracker using VLPC readout

by Stefan GRUENENDAHL / University of Rochester, New York

Results of a cosmic ray test of a 3072 channel scintillating fibre tracker using visible light photon counter (VLPC) readout will be presented. This system is a prototype for the D0 detector tracking upgrade, and represents a configuration that is similar to that planned for the final detector. Characterization of a large number of VLPC has been an integral part of this scintillating fibre system test. Results are reported from our investigation of 4200 channels of HISTE IV VLPCs, for which quantum efficiency, gain and noise were studied as a function of operating temperature and VLPC bias. Tracking results from the cosmic ray test itself include R-Phi and R-Z resolution studies, light yield/mip, attenuation, and efficiency measurements. We obtain a typical number of 10 photo-electrons/mip/fibre, and for a doublet layer an R-Phi resolution of 160 microns (before corrections for fibre position survey) and an efficiency, with negligible noise, of nearly 100%, after accounting for known dead channels in the system.

Tuesday 11 October

TECHNICAL PRESENTATION

at 10.00 hrs – CN Auditorium
bldg 31/3-005

New IBM RS/6000 hardware & software announcement
by Markus BAERTSCHI / Tim Bell, IBM Switzerland

This session will give you an overview of the new hardware and software products that will be announced by IBM on 4 October.

Organizer : S. Cannon / CN / 5036

Wednesday 12 October

ISOLDE SEMINAR

at 16.00 hrs – TH Conference Room

Interstitial defect reactions in silicon

by A. MESLI / Laboratoire PHASE (CNRS), Strasbourg

Wednesday 12 October

INSTITUTION OF ELECTRICAL ENGINEERS LECTURE

at 16.30 hrs – Council Chamber

Swissmetro

by Marcel JUFER / Laboratory of Electromechanics and Electrical Machines, Swiss Federal Institute of Technology, Lausanne

EDUCATION SERVICES EDUCATIFS

ENSEIGNEMENT GÉNÉRAL

Tél. 5811

Jeudi 6 octobre

à 13.00 h – Amphithéâtre
Science pour tous
par Rafel CARRERAS

**Reprise. Attention : il n'y aura pas de séance
le 20 octobre 1994.**

ACADEMIC TRAINING

Tel. 3127

LECTURE SERIES

11, 12, 13 & 14 October

11.00-12.00 hrs – Auditorium

Introduction to Quantum Field Theory

by L. ALVAREZ-GAUMÉ / CERN-TH

1994 – 1995 ACADEMIC TRAINING PROGRAMME

1st Term

1 October – 16 December 1994

LECTURE SERIES FOR POSTGRADUATE STUDENTS

11, 12, 13 & 14 October

11.00-12.00 hrs – Auditorium

Introduction to quantum field theory

by L. ALVAREZ-GAUMÉ / CERN-TH

24, 25, 26, 27 & 28 October

11.00-12.00 hrs – Auditorium

Quantum chromodynamics

by G. MARTINELLI / University of Roma, Italy & CERN-TH

17, 18, 19, 20 & 21 October

11.00-12.00 hrs – Auditorium

Electro-weak interactions

by P. LANGACKER / University of Pennsylvania, USA

31 October, 2 & 4 November

11.00-12.00 hrs – Auditorium

Beyond the standard model

by S. DIMOPOULOS / CERN-TH

The lectures are open to all those interested, without application.

The abstract of the lectures, as well as any change to the above information (dates, title, time, place, etc.) will be published in the CERN Bulletin, Training News, VM News and by Notices before each Term and for each series of lectures.