

SEMINARS SEMINAIRES

Monday 9 March

PPE SEMINAR

at 16.30 hrs – Auditorium

Measurement of α_s in hadronic Z decays using all-orders resummed predictions

by Ramon MIQUEL / CERN-PPE

Using 109000 hadronic events obtained with the ALEPH detector at LEP at energies close to the Z resonance peak, the strong coupling constant $\alpha_s(M_Z^2)$ is determined from an analysis of the global event shape variables thrust, heavy jet mass, and the differential two-jet rate based on the k-T-clustering scheme. The analysis uses improved theoretical predictions in which leading and next-to-leading logarithms, resummed to all orders, supplement second order expressions. After combining the results from all variables, $\alpha_s(M_Z^2)$ is measured to be 0.125 ± 0.005 , where the error is the quadratic sum of experimental and theoretical uncertainties.

Tuesday 10 March

DETECTOR SEMINAR

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

Highlights of the 1992 Vienna Wire Chamber Conference

by Thomas HENKES / CERN-PPE

Selected topics of the Vienna Wire Chamber Conference 1992 will be presented. The covered topics are :

- use of photo-sensitive chambers in biology and particle identification (Ring Image Cherenkov counters),
- new developments in gas microstrip chambers,
- fast chamber gases and new results from noble liquid calorimetry.

Tuesday 10 March

AS SEMINAR

at 14.30 hrs – Council Chamber

Electronic preprint handling

by Eric VAN HERWIJNEN / AS-MI

Due to the introduction of several high speed PostScript laserprinters in the printshop, the production of the majority of CERN preprints has now been automated to a large extent. Now that large numbers of preprints exist electronically, the printshop has investigated other means of distribution, such as network document servers, besides the traditional distribution on paper. In this seminar I will demonstrate a prototype preprint database which has facilities for printing and PostScript previewing, as well as an intelligent 'hypertext'

user interface for searching through the database. The connection with the library's 'optical disk project' and other existing preprint servers (HEPTH and Los Alamos) will also be discussed.

Language : English

Mercredi 11 mars

PRESENTATION TECHNIQUE

de 09.00 à 16.00 h – bât. 865/2-A04

Yokogawa France SA (D/J/NL) : instrumentation, contrôle de procédé et analyse dans le domaine des gaz

Liste des produits : matériel d'analyse en continu – pH, rH, conductivité, oxygène dissous, oxygène gaz, chlore libre, soufre dans les hydrocarbures, turbidimètre; matériel de mesure de débit – à effet vortex, électromagnétique; transmetteur de pression; enregistreurs programmables et configurables 1 à 300 voies; régulateurs, systèmes de conduite de procédés.

Langue : français

Renseignements: M. Diraison / FI / 4585

Wednesday 11 March

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

QCD using dual potentials

by Fred ZACHARIASEN / Caltech

The idea of re-expressing the QCD Lagrangian in terms of dual (electric) vector potentials rather than the conventional magnetic vector potentials is explored, since it is to be expected that these are much more well behaved in the infra-red regime than are the usual ones. A guess is made for the form of the long-range QCD Lagrangian as a function of dual potentials, and the motivation for this guess is outlined. It is shown that colour confinement follows automatically, and an explicit classical solution for the field configuration in a colour electric flux tube is found. Further applications allow the determination (in the classical approximation) of the full spin-dependent static potential between heavy quarks, and the calculation of the deconfinement and chiral transition temperatures.

Wednesday 11 March

COMPUTING SEMINAR

at 16.00 hrs – CN Auditorium
bldg 31/3-005

An innocent (well, almost) in the land of C++

by David R. MYERS / CERN-ECP

The experience gained while re-writing C and Objective-C applications in C++ will be presented in detail. Traps just waiting for a beginner, some small test programs showing them, and ways to resolve the (many) difficulties encountered will be described. This should bring a better understanding of

key C++ features and how they should be used. With more and more software developers arguing that C++ is undoubtedly better than C, even if no use is made of its object-oriented aspects, and with over 400'000 installations (the number of users is doubling every 7 months) it is an opportune moment to give a presentation aimed at those people who are considering to use C++ or who have recently become acquainted with it, so as to help them avoid some of the errors made when using C++ for the first time 'for real'. In order to do this, part of the talk will be at a fairly technical level and some basic notions of C and Object Oriented Programming will be assumed.

R. Myers joined the data handling division of CERN in 1973. Since that time he has worked on many aspects of computing, including real-time control systems, micro-programmed processor design, networking, computer graphics and object-oriented programming. He was a member of the ISO committee that produced the PHIGS 3D graphics standard, and from 1986 to 1990 was responsible for CERN graphics support. He holds a doctorate in particle physics from the University of Liverpool.

Organizer : J.P. Matheys / ECP /
matheys@online.cern.ch

Thursday 12 March

COMPUTING SEMINAR

at 16.00 hrs – TH Conference Room*

High Speed Data Acquisition at Fermilab E791

by Don SUMMERS / University of Mississippi

In order find rare charm decays, the E791 collaboration has built a high speed data acquisition system for use with a 500 GeV/c π^- beam, a fixed target and an upgraded magnetic spectrometer. The DA can digitize and read out 22,000 latch, TDC and ADC channels in 50 μ s. Transverse energy triggers are accepted at the rate of 10,000 per second. Eight 80 MB FIFOs are used to buffer events, which are then compressed and assembled in 6 parallel VME crates. Data is then written continuously to 428mm Exabyte tape drives at the rate of 10 MB/second. The event length is typically 2400 bytes. During the 1991 fixed target run at Fermilab, 20 billion events were recorded on 24,000 8mm tapes. This 50 Terabyte data set is now being analyzed on parallel RISC computing facilities built by our colleagues at Ohio State, Mississippi and CBPF-Rio de Janeiro.

* Please note unusual day & place!

Friday 13 March

TECHNICAL PRESENTATION

09.30 to 12.00 & 14.00 to 16.00 hrs

bldg 54/2-035

Leda-Mass Ltd (UK) : Quadrupole residual gas analyser systems including the Multiquad, the Black Box Multiquad, the Vacscan & Vacscan Plus

– low cost systems

Applications:

Vacuum residual gas analysis, vacuum troubleshooting, vacuum process monitoring, gas analysis. The Multiquad

and Black Box Multiquad instruments are specifically designed for the monitoring, control and datalogging of multiple quadrupole RGA sensors SIMULTANEOUSLY.

These multi-sensor systems are designed for use on large vacuum systems (accelerators, synchrotron storage rings etc) where it is required to monitor vacuum at multiple positions SIMULTANEOUSLY.

Particular attention has been paid to dealing with the hostile environments encountered in such applications. Eg. Radiation, wide temperature variations, which could damage critical RF power supply electronics. Leda-Mass have developed 2 types of RF extender assembly to deal with such environments.

Language : English

Information : M. Diraison / FI / 4585

Friday 13 March

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room

**Experimental probes of Higgs bosons and
electroweak symmetry breaking: standard model
and minimal supersymmetric model**

by J.F. GUNION / CERN

I outline the means for probing the Higgs boson/EWSB sector of the Standard Model, with emphasis on purely leptonic final state probes of WL WL scattering when the Higgs mass is large. For the Minimal Supersymmetric Model, it is demonstrated that one is close to a no-lose theorem : at least one of the MSSM Higgs bosons will be discovered either at LEP-200 or at LHC/SSC, except for a few small wedges of parameter space.

Vendredi 13 mars

PRESENTATION TECHNIQUE

de 14.00 à 16.00 h – bât. 54/ 2-033

**Philips SA (CH/NL), une nouvelle méthode de
test : Boundary Scan Test**

Philips Test & Mesure introduit actuellement les premiers équipements permettant la mise en œuvre de cette technique d'avenir.

Langues : anglais, français

Renseignements : M. Diraison / FI / 4585

Tuesday 17 March

DETECTOR SEMINAR

at 11.00 hrs – ECP Conference Room

bldg 13/2-005

Gaseous detectors in medical radiography

by Lev SHEKHTMAN / Budker Institute of
Nuclear Physics, Novosibirsk

Tuesday 17 March

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium

Recent results from CESR

by Karl BERKELMAN / Cornell University &
CERN

Wednesday 18 March

COMPUTING SEMINAR

at 16.00 hrs – CN Auditorium

bldg. 31/3-005

**Use of the ADAMO System in the ZEUS
Experiment**

by Markus Tobias HAAS / DESY, Hamburg,
Germany

Thursday 19 March

PRESENTATION

at 11.00 hrs – CN Auditorium

bldg 31/3-005

High speed gate arrays and their application

by Richard W. SPEHN

Friday 20 March

PRESENTATION

at 09.30 hrs – CN Auditorium

bldg 31/3-005

**Parsytec GC and the Parix Programming
Environment**

by F. LANGHAMMER & D. JEFFRY

Information : Ian Willers /ECP, Brian Martin/ECP

TRAINING AND EDUCATION ENSEIGNEMENT

ENSEIGNEMENT GENERAL

Tél. 5811

Jeudi 12 mars

à 13.00 h – Amphithéâtre

Science pour tous

par Rafel CARRERAS

INFORMATIONS GENERALES GENERAL INFORMATION

RÈGLEMENT DU PERSONNEL

Les modifications au Règlement du Personnel, approuvées par le Comité des Finances à sa réunion des 17 et 18 décembre 1991, sont disponibles auprès des secrétariats de division.

Division du Personnel
Tél. 4128

ACADEMIC TRAINING

Tel. 2844

17, 18, 19 & 20 March

11.00 to 12.00 hrs – Auditorium

Arithmetics, geometry and conformal fields

by C. ITZYKSON / Saclay

The last few years have witnessed a remarkable conjunction of methods in such diverse domains as string and topological field theory, two dimensional statistical physics, classical and quantum integrable systems. The lectures will aim to present some of the underlying mathematics at an elementary and pedagogical level, for their intrinsic value.

LOST

An aluminium platform (4 x 8m), on a steel chassis, weight 3 tons, has disappeared from the Hall 181 on the CERN main site. If you know where it could be found please contact the OPAL Secretariat, tel. 3839.

STAFF REGULATIONS

The last changes to the Staff Regulations approved by the Finance Committee at its meeting on 17 and 18 December 1991, are available in the divisional secretariats.

Personnel Division
Tel. 4128