

SEMINARS SEMINAIRES

Wednesday 8 December

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

The counting of hadronic jets as a problem of measurement

by F. TKACHOV / INR, Moscow

Logical principles of measurements with calorimetric detectors are considered. It is pointed out that the usual clustering algorithms used for the counting of hadronic jets map a continuum of final states to the discrete set of integer numbers and, therefore, cannot be stable for all multiparticle configurations with respect to data errors and small corrections. The stability of the observables is ensured by their continuity with respect to an appropriate topology in the continuum of final states. The "calorimetric" topology that corresponds to calorimetric measurements is described. A sequence of shape observables (jet discriminators) are derived that (1) are continuous in the calorimetric topology and IR finite; (2) effectively measure the qualitative feature of final states popularly known as the "number of jets"; (3) have a form of multiparticle correlators that is natural in the context of quantum field theory. Within the formalism of jet discriminators, the issue of Sudakov corrections becomes marginal, while taking into account hadronization is reduced to studying logarithmic and power corrections. The latter can be done within the formalism of asymptotic operation similarly to the case of total cross sections. The problem of computation of the jet discriminators from data is discussed. It is pointed out that clustering algorithms can be viewed (and used) as an approximation trick for computation of the jet discriminators.

Wednesday 8 December

COMPUTING SEMINAR

at 16.00 hrs – CN Auditorium

bldg 31/3-005

CLIO : accessing VM data from a Unix workstation

by George APOSTOLOPOULOS / CERN-CN

Getting fast access to CERNVM resources is a problem for several Unix users who may not be able to exploit the CPU power of their RISC systems because they cannot feed them efficiently with centrally stored data. CLIO, a project developed in the CN division, is aimed at solving this problem. With CLIO, a channel attached workstation acts as a data server for Unix users connected on the network. It validates user requests, communicates with the appropriate VM service and transfers data through the channel. In most cases the user should experience two to four times faster data rate (and a significantly lower overhead on VM) than when using standard FTP or NFS to CERNVM. At present, CLIO supports FTP-like access to VMSTAGE tapes and VM

minidisks. Record level access to VM files and sending files from Unix systems to VM spool are under development. This presentation will describe CLIO operation and performance and the ways it can be used to improve the efficiency of accessing VM stored information. We will also discuss the place of the service in the future setup of the central computing facilities and present some users' experience.

Thursday 9 December

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

Phase transition in rigid QED and the anomalous e^+e^- heavy ion collisions

by M. AWADA / University of Cincinnati

Friday 10 December

SL SEMINAR

at 11.00 hrs – SL Auditorium, Prévessin
bldg 864, 1st floor

Transverse spin polarization and its use at LEP

by R. ASSMANN / Max Planck Institut, Munich, Germany

In e^+e^- storage rings the circulating beams spontaneously polarize themselves. However, classical synchrotron radiation enhances depolarizing effects, which become more severe the higher the beam energy is. At LEP spontaneous beam polarization is observed at the highest energy so far. It is shown how polarization could be improved from below 20% to almost 60%. Experimental results on high-order spin resonances and asymmetric wigglers are presented and are compared with theoretical calculations. Consequences for spontaneous beam polarization at energies higher than 46 GeV are discussed. As an important application of polarization the precise calibration of the LEP beam energy is described.

Friday 10 December

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room

Theory of hadron-hadron diffractive scattering at the highest energies, with new predictions

by S. BARSHAY / RWTH, Aachen

The essential elements in a new theory of hadron-hadron diffractive scattering at the highest energies are summarized, together with new predictions. The pp total cross section increases to about 178 mb at $\sqrt{s} = 100$ TeV, and rho continues to increase slowly to a value of about 17% at 17 TeV. The asymptotic structure of the S-matrix in impact-

parameter (b) space is discussed. The energy dependence of $S(s,b)$ becomes related to the growth of the average multiplicity, which asymptotically reaches growth as a small power of s . The fluctuations in the multiplicity distribution are investigated and shown to be large.

Friday 10 December

PRESENTATION

at 14.00 hrs – Council Chamber

Item coding and classification review

by Mervyn ROGERS & Steve KERZMANN /
Coopers & Lybrand (UK)

Numerous coding schemes are in use at CERN which have different origins, serve different purposes & which are basically incompatible. Coopers & Lybrand were commissioned by the AS-Logistics Group to carry out a feasibility study, to determine whether a conceptual model could be developed which could interlink the generic types of coding schemes which will be needed for both technical and commercial applications in the future. This presentation will concentrate on the benefits such a model could provide.

Information : M.A. Doran / AS-LO/3590/
Doran@CERNVM, QUICKMAIL ADMINMAIL2

Vendredi 10 décembre

SEMINAIRE LHC

à 15.00 h – Amphithéâtre

Le LHC; où en sommes nous ?

par G. BRIANTI / CERN

A l'intention de tous les membres des secteurs Accélérateurs et Technique qui travaillent ou travailleront sur le projet.

La proposition technique faite au Conseil sera présentée ainsi que le programme de réalisation.

Les principaux résultats du développement R&D pour les aimants et la cryogénie seront illustrés et le programme pour 1994 présenté.

Le rapport du Comité d'Evaluation nommé par le Comité des Directives Scientifiques sera également illustré.

L'exposé sera fait en français.

Vendredi 10 décembre

CONFÉRENCE – DÉBAT

à 20.30 h – Amphithéâtre

Perspectives et mise en œuvre des Droits de l'Homme

après la Conférence mondiale de Vienne

par Ibrahim FALL / Sous-Secrétaire Général
de l'ONU aux Droits de l'Homme,
Secrétaire Général de la Conférence mondiale
sur les Droits de l'Homme (Vienne, juin 1993)

A l'initiative du groupe 43 de "Amnesty International"
Voltaire-Pays de Gex "

Monday 13 December

PPE SEMINAR

at 16.30 hrs – Auditorium

Measurement of baryon production and correlations from OPAL

by J. LETTS / University of California, Riverside

The production rates of the octet and decuplet strange baryons Λ , Ξ^- , $\Sigma(1385)^+$, $\Xi(1530)^0$ and Ω and the corresponding antibaryons are measured in hadronic Z^0 decays recorded with the OPAL detector. The inclusive production rate of $p\bar{p}$ is also measured using the energy loss measurement in the OPAL jet chamber. Results on differential and integrated cross sections are presented and are compared with different Monte Carlo models. The production dynamics of baryon-antibaryon pairs are also investigated, using events which contain at least two identified Λ baryons. The rapidity difference for $\Lambda\bar{\Lambda}$ pairs shows the correlations expected from models with a chain-like production of baryon-antibaryon pairs. Measurements of the rates for simultaneous baryon and strangeness number compensation for $\Lambda\bar{\Lambda}$, $\Xi^- \Xi^+$, and $\Xi^- \Xi^+ \Lambda$ are also presented.

Mardi 14 décembre

PRESENTATION TECHNIQUE

09.00-12.00 h – bât. 73/2-027

ARP, application de la recherche en photonique (F) et Photek (GB) propose deux exposés :

1. Produits en vidéo rapide et analyse multicanale
2. Systèmes complets d'imagerie par comptage de photons à haute cadence, utilisant des transputers.

Renseignements : M. Diraison / FI / 4585

Tuesday 14 December

PRESENTATION

at 11.00 hrs – CN Auditorium,
bldg 31/3-005

The new CRAY SUPERSERVER 6400 system

by Lou JACOB / Cray Research Superserver Inc.

Tuesday 14 December

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium*

Charmonium spectroscopy in $p\bar{p}$ annihilations

P. DALPIAZ / University of Ferrara

Wednesday 15 December

COMPUTING SEMINAR

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

The CLHEP project – Developing a C++ class library for HEP

by Leif LONNBLAD / CERN-TH