

SEMINARS SEMINAIRES

Monday 26 May

EF SEMINAR

**at 11.00 hrs - EF Conference Room
bldg 13, 2-005**

Electronic CAD in the research divisions

by B.W. HECK / CERN

Electronic systems and circuits are becoming more and more complex, and good tools are needed. For several years industry has been offering Computer Aided Design (CAD) systems which help to make the design and construction easier, cheaper and more efficient. The situation of development groups in research divisions with respect to CAD will be described, including what has already been achieved and what the goals are for the near future. The main emphasis will be given to a system for developing printed circuit boards for Fastbus.

Monday 26 May

EP SEMINAR

at 16.30 hrs - Auditorium

**Direct photon production at the CERN
proton-antiproton collider**

**by P. HANSEN / Niels Bohr Institute,
Copenhagen**

Using the UA2 detector we have measured the inclusive cross-section for production of large transverse momentum direct photons in proton-antiproton collisions at collision energies of 546 GeV and 630 GeV. The results are in good agreement with QCD predictions.

Mardi 27 mai

PRESENTATION TECHNIQUE

**de 10.00 à 12.00 h et de 14.00 à 16.00 h
bât. 17, 1-007**

La Manufacture des Alpes Françaises (MAF), division appareillage électrique, expose son programme de fabrication : unité de commande et de signalisation, commutateurs rotatifs de 16 à 4000 Ampères, commutateurs à commande automatique pour commande à distance de 32 à 4000 Ampères, boîtes de commande pour engins de levage et ponts roulants, coffrets étanches pour emploi en ambiance sévère, isolateurs basse tension, bornes de raccordement pour la Marine et les constructions ferroviaires, fabrications diverses de produits dérivant de nos gammes standard mais adaptés aux besoins de la clientèle et suivant cahier des charges fourni.

Langues : anglais, français

Renseignements : M. Diraison / FI / 4585

Tuesday 27 May

PRESENTATION

**at 10.00 hrs - DD Auditorium
bldg 31, 3-005**

An integrated graphical environment for software development

**by A.I. WASSERMAN / University of
California, San Francisco, and Interactive
Development Environments Inc.**

Analysis and design are the essential first phases in most software development projects, yet most automated support environments are aimed at the programming phase. An integrated development support environment must therefore provide its users with consistent access to a set of software tools covering all phases of software development. Such tools must be well integrated with one another, so that information developed at one phase of the project is available at later phases. This talk describes a workstation-based environment that provides an ensemble of graphical tools for analysis and design coupled to a project database, along with mechanisms for producing declarations, code skeletons, and executable programs. The environment is built on an 'Open architecture', in which interfaces to the tools and their associated files are visible and accessible.

Tuesday 27 May

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs - Auditorium*

**Analysis of gluon scattering and gluon
fragmentation in high transverse momentum
interactions at the ISR**

by T. LOHSE / CERN

Gluon scattering processes are studied in hadronic high transverse momentum events using data obtained with the Split-Field Magnet detector at the CERN ISR. The experimental setup allowed to scan a wide range of proton energies and scattering angles. It is shown that by selecting positive pions as trigger particles, the parton composition of the recoil jet can be effectively controlled by variations of trigger angle and transverse momentum. Over the kinematical region studied, the recoil jet originates predominantly from scattered gluons. The dynamics of the scattering processes as well as gluon fragmentation properties will be discussed.

*** Tea and coffee will be provided at 16.00 hrs.**

Wednesday 28 May

PS SEMINAR

**at 11.00 hrs - PS Auditorium
bldg 6, 2-024**

**Use of the ND-500 computer for number
crunching from the on-line control**

by F. PERRIOLLAT / CERN

A general presentation will be given of the facilities available to use the ND-560 (currently the PS PRDEV computer) as a number cruncher from the on-line control computers. The initial motivation to provide this kind of facility was to use large modelling programs (as MAD,

COMFORT, ORBCOR) directly from on-line control. After the general presentation a discussion may take place about technical implementation of the facility or typical applications of such number crunching.

Wednesday 28 May

THEORETICAL SEMINAR

at 14.00 hrs - TH Conference Room

Neutrinos from binary stars

by T. GAISSER / Bartol Research Institute
and Frascati

Production reabsorption, emission and detection of higher energy neutrinos from a system like Cygnus X-3 will be discussed. Self-absorption leads to an upper limit on how strong the source can be without blowing itself away and hence to a limit on the expected underground signal.

Wednesday 28 May

DD SEMINAR

at 16.00 hrs - DD Auditorium
bldg 31, 3-005

The VALET-Plus system

by Y. PERRIN / CERN-DD

The VALET-Plus is a low cost, user friendly test system interfaced to CAMAC, FASTBUS, VMEbus and GPIB. It provides physicists with a programming environment also available on larger computer (e.g. VAX). First released in March 1985, more than 60 systems are in operation today in major HEP laboratories in Europe and in the USA. In the VALET-Plus, VMEbus and the MoniCa monitor provide an optimum basis for fast physics I/O. Remote Procedure Calls permit the use of virtually any personal computer as server of standard I/O including file management, graphics and the user interface. VALET-Plus is built from commercially available hardware and is based on CERN standard software. This allows it to evolve with the VMEbus/68000 market and according to user needs. The architecture, functionality and performance of VALET-Plus will be presented together with current ideas on its potential evolution. Hardware, including various personal computers, will be exhibited to demonstrate the flexibility and performance of the system.

Thursday 29 May

CERN COLLOQUIUM

at 16.30 hrs - Auditorium*

The Giotto Mission and Halley's Comet

by Prof. Reimar LUST / Director-general,
European Space Agency, Paris

Throughout history, comets have been puzzling mankind and creating fear in the hearts of those who see them. In 1705, the English astronomer, Edmund Halley, was the first to predict the return for the year 1758 of a comet which since then bears his name. Space techniques, such as the creation of artificial comets, have enabled Man in recent decades to learn more about comets and the pro-

cesses occurring in their vicinity. Even more exciting is to go directly to a comet and to study it and its surroundings at close quarters. ESA's Giotto space probe, launched last July by Ariane, successfully passed Comet Halley's nucleus within 540 km on 14 March 1986 after an eight-month voyage through space, and provided scientists with a host of new data which are still under evaluation.

* Tea and coffee will be provided at 16.00 hrs.

Monday 2 June

EF SEMINAR

at 11.00 hrs - EF Conference Room
bldg 13, 2-005

Progress of the L3/BGO calorimeter

by M. SCHNEEGANS / CERN

The large high-performance electromagnetic calorimeter of L3 (~ 12000 BGO crystals, 1.6 m³ sensitive volume) has now moved from the stage of a project on paper to the component production stage. After the recall of some of the specific features of this calorimeter, the situation of crystal production, machining and reception tests will be reviewed. The present levels of performance, as measured in beams on test matrices, will be indicated.

Monday 2 June

PROTON SYNCHROTRON AND SYNCHRO-CYCLOTRON COMMITTEE

Open session

at 14.30 hrs - Council Chamber

1. Proposal : JETSET-Physics at LEAR with an internal gas jet target and an advanced general purpose detector (LAPP Annecy - CERN - Freiburg - Geneva - Genoa - Jülich - Oslo - Uppsala - Texas - Minnesota; PSCC/86-23/P97; 86-24/S97; 86-28/M262; J. Kirkby.
2. Status Report on experiment PS 195; Test of CP violation with neutral kaons (Athens - Demokritos - Basel - CERN - Fribourg - Liverpool - Saclay CEN DPhPE - SIN- Stockholm - Thessaloniki - Zurich; P. Pavlopoulos).
3. The muon spin rotation programme [Annual report of the muon spin research (muon spin rotation) at CERN]; CERN - Grenoble - Jülich - Leicester - Munich - Parma - Rutherford - Uppsala; PSCC/ 86-13/M254. Hydrogen mobility in disordered metals studied by muon spin rotation; Grenoble - Jülich - Uppsala; PSCC /86-15/P96; 86-16/S96; R. Wäppling).
4. ISOLDE proposals :
 - Nuclear ground state properties in strontium by fast beam laser spectroscopy (CERN - Hamilton - Leuven - Mainz - Montreal; PSCC/86-29/P98; 86-30/S98; F. Buchinger).
 - Nuclear structure of neutron-deficient rare-earth nuclei from Gamow-Teller decay spectroscopy (KFA Jülich - GSI Darmstadt - Strasbourg; PSCC/ 86-32/P99; 86-33VS99; P. Kleinheinz).

Closed session

Tuesday 3 June at 09.00 hrs in the 6th floor
Conference Room.

Monday 2 June

CAS ACCELERATOR SEMINAR

at 14.30 hrs - LEP Auditorium
last floor of bldg 30

Chaos in accelerators

by F. SCHMIDT / DESY, Hamburg

Nonlinearities such as high-order multipole fields due to magnet imperfections may lead to chaotic behaviour of particles in an accelerator. In order to study particle losses caused by this chaotic motion, long-time tracking has been performed for the proton ring of HERA using the RACE-TRACK code. The characteristic Lyapunov exponent is used to distinguish regular motion from chaotic motion. The motion can be visualised by looking at phase space plots at a certain observation point in the accelerator. A film will show the dynamical development of the motion in 2- and 4-dimensional phase space. Colour is used to get a feeling for the 4-dimensional phase space dynamics.

TRAINING AND EDUCATION ENSEIGNEMENT

Mardi 3 juin

LES SCIENCES AUJOURD'HUI

à 20.00 h précises - Auditorium
(jusqu'à environ 22.00 h)
par R. CARRERAS

Rafel Carreras, responsable du programme d'Enseignement général au CERN, commentera et expliquera un choix d'articles parus récemment dans des revues scientifiques, et qui couvrent l'ensemble des sciences physiques et biologiques ainsi que certains aspects des relations science-société. Une attention particulière est portée au langage et aux notions utilisés afin que les explications et les commentaires soient accessibles aux personnes n'ayant pas de formation scientifique.

Entrée libre

(Please note that the lecture will be given in FRENCH)

Service des Relations Publiques
Tél. 2722

Monday 2 June

EP SEMINAR

at 16.30 hrs - Auditorium

Exploring the pomeron :

pomeron-pomeron collisions at the CERN ISR

by M. DALLAVALLE / CERN

Proton-proton interactions which result in a central cluster of mass M_c and two quasi-elastically scattered protons are generally described by pomeron-pomeron scattering. A study of this process at ISR energies with the SFM is carried out. It is shown that the transverse component of the pomeron momentum accounts for :

- the production of high transfer momentum (up to 3 GeV/c) central particles,*
- the low transverse momentum exponential behaviour of the transverse momentum distribution.*

This can lead to an understanding of the phenomenon of pomeron exchange and gives a hint to reveal the role of partons in soft hadronic processes.

Wednesday 4 June

PS SEMINAR

at 11.00 hrs - PS Auditorium
bldg 6, 2-024

JETSET : a novel technique to use antiprotons in LEAR

by Mario MACRI / CERN

ENSEIGNEMENT GENERAL Tél. 2844

Jeudi 29 mai

de 13.00 h à 13.30 h - Amphithéâtre
Science pour tous
par R. CARRERAS

ACADEMIC TRAINING Tel. 2844-3364

Monday 26 May

at 14.00 hrs - Auditorium
PLEASE NOTE UNUSUAL TIME

Quantum mechanics and this specific universe

by M. GELL-MANN / Caltech

Lecture 2

26, 27, 28, 29 and 30 May

11.00 to 12.00 h - Auditorium

Standard electroweak interactions

by P. ZERWAS / RWTH, Aachen & CERN

A series of five lectures