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La reproduction même partielle de ces informations par des personnes ou des institutions externes à l'Organisation exige l'approbation préalable de la Direction du CERN.

OPERATIONS DE DENEIGEMENT

Dans le but de faciliter les opérations de déneigement, qui commencent dès 4h30 du matin, nous demandons à tous les conducteurs de voitures CERN de bien vouloir les regrouper sur les parkings. Cette démarche nous permettra de mieux accomplir cette mission.

Nous vous remercions pour votre aide.

Groupe Transport / ST-HM
Tél. 72202

OFFICIAL NEWS

Members of the personnel shall be deemed to have taken note of the news under this heading.

Reproduction of all or part of this information by persons or institutions external to the Organization requires the prior approval of the CERN management.

SNOW CLEARING

In order to facilitate snow clearing operations, which commence at 4.30 every morning, drivers of CERN vehicles are kindly requested to group their cars together in the car parks. This will greatly help us in our work.

Thank you for your cooperation.

Transport Group / ST-HM
Tel. 72202

SEMINARS SEMINAIRES

Vous pouvez aussi consulter
For information on these seminars, please see
<http://Bulletin.cern.ch/Seminars/>

Monday 29 November

ISOLDE AND NEUTRON TIME-OF-FLIGHT
EXPERIMENTS COMMITTEE (ISTC)

Closed Session

13.30 hrs – 6th floor Conference room, Main Building

Please note that there will be no Open Session

Monday 29 November

CERN EP SEMINAR

at 16.30 hrs – Auditorium, bldg 500*

Four-fermion physics in DELPHI

by Alessandra TONAZZO / CERN-EP

The results of the DELPHI experiment on four-fermion production at LEP2 are presented.

The measurement of the cross-section for boson pair production (WW,ZZ) and for single boson processes (W ν) is described. Differential cross-sections can be used to derive information on Triple Gauge Couplings. The main part of the talk is devoted to the precise measurement of the mass of the W boson. The experimental techniques are reviewed. Emphasis is put on the sources of systematic uncertainty, which currently limit the accuracy of the measurement, and on the possibilities to improve the precision by the end of the LEP2 programme.

Organiser : Fabiola GIANOTTI / EP Division

* Tea & coffee will be served at 16.00 hrs.

Tuesday 30 November

TECHNICAL PRESENTATION

at 10.00 hrs – IT Auditorium, bldg 31/3-004-5

NEWS from SUN Microsystems

by MM. René WALPEN & Jean-Luc BOCQUET/SUN
Microsystems

Agenda:

SUN Microsystems will present the latest NEWS about their range of products, including:

Sun Ultra 80
Sun Ultra Enterprise E220R
Sun Ultra Enterprise E420R
NETRA TELCO SERVER
SUN STOREDGE L700 TAPE LIBRARY
SUN STOREDGE A3500 FC
Sun Ray 1 (nouveau Intranet Appliance)
Sun Netscape Alliance (Iplanet)
Jiro et Jini

They will also present information on current promotional offers from SUN.

Question/Answers:

This presentation will be in French, question and answers can be in English.

Organiser : S. CANNON / IT / 75036

Tuesday 30 November*

SL SEMINAR

at 16.00 hrs** – SL Auditorium, bldg 864

Status of the LEP Spectrometer Project

by John MATHESON / CERN-SL

At LEP I, measurement of the beam energy was performed with high accuracy by resonant depolarisation. At physics energies for LEP II, polarisation of the beams is not achievable and measurements of the total bending field are used, calibrated against resonant depolarisation over the range 41-60 GeV/beam. Uncertainties arise from regions of the field which are not sampled adequately.

The LEP Spectrometer was proposed to give a determination of beam energy for LEP II. The instrument consists of a steeld ipole flanked by beam position monitors (BPMs) which allow measurement of changes in the bend angle. The aim is to achieve a relative precision of $1E-4$ on the energy, which requires knowledge of the integral magnetic field to $3E-5$ and 1 micron resolution from the BPMs. The commissioning of the Spectrometer has been ongoing through 1999.

The talk will outline energy measurement at LEP, the Spectrometer hardware and the characterisation of the individual subsystems. The current status of the data analysis from the 1999 running will be reviewed.

Information: <http://www.cern.ch/CERN/Divisions/SL/news/news.html>

Organiser: Werner HERR / SL Division

* PLEASE NOTE UNUSUAL DAY !

**Tea and coffee will be served at 15:30 in front of the Auditorium.

Wednesday 1 December

SPS AND PS EXPERIMENTS COMMITTEE

Open session

at 09.00 hrs – Auditorium, bldg 500

1. Status report from NA59: M. Velasco, 30 min
2. Status report from PS212 / DIRAC: L. Nemenov, 30 min
3. Solar Axion Search using a Decommissioned LHC Test Magnet (SPSC 99-21/P312): K. Zioutas, 30 min
4. Proposal to study Hadron Production for the Neutrino Factory and for the Atmospheric Neutrino Flux (SPSC 99-35/P315): F. Dydak, 30 min

Closed session

After the Open Session – 6th floor Conference room, Main Building

Wednesday 1 December

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room, bldg 4

Entropy bounds, string cosmology and our arrow of time

by Gabriele VENEZIANO / CERN-TH

Old and new proposals for entropy bounds are briefly reviewed and compared. In string cosmology, the relevant bound is threatened by quantum entropy production during pre-big bang inflation, making the eventual transition to a FRW Universe necessary. The rapid increase of the bound in this latter phase appears to provide our present arrow of time.

Wednesday 1 December

COMPUTING SEMINAR

at 16.00 hrs – IT Auditorium, bldg 31/3-005

The use of Globus for heterogeneous and distributed applications

by Giovanni ALOISIO & Paolo FALABELLA / ISUFI-University of Lecce

The Globus project (<http://www.globus.org>) is developing basic software infrastructure for computations that integrate geographically distributed computational and information resources.

Globus is a joint project of Argonne National Laboratory and the University of Southern California's Information Sciences Institute. Led by Ian Foster and Carl Kesselman, it is the work of a talented project team at Argonne, USC/ISI, and the Aerospace Corporation, with significant contributions also being made by other partners.

The talk will show how Globus can be used for the management of on-line scientific data archives and for their on-demand remote processing. Other Globus key points, as the secure management of distributed heterogeneous resources and the mapping of high level user requests into low-level systems procedures, will be described. In the talk we will also present how the Globus functionality is used in the SARA project (a joint project between CACR/Caltech and the HPC Lab/University of Lecce, <http://www.cacr.caltech.edu/sara>), whose goal is to develop a Dynamic Earth Observation System (DEOS).

Speakers' Profile:

Giovanni Aloisio

Giovanni Aloisio is Associate Professor of Information Processing Systems and Director of the High Performance Computing Laboratory of the Department of Innovation Engineering (University of Lecce/ISUFI, Italy). His research interests include parallel and distributed computer architectures. Since 1986 to 1990 he contributed to the Caltech Concurrent Computation Program (C3P) led by Geoffrey C. Fox at the California Institute of Technology, investigating the efficiency of the Hypercube architecture in Real-Time SAR data processing. Actually he collaborates with the Center for Advanced Computing Research (CACR) of the California Institute of Technology on High Performance Distributed Computing projects. He also collaborates with Carl Kesselman of the Information Sciences Institute, on the use of "Computational Grids" for the management of "large collections of scientific data".

Paolo Falabella

Paolo Falabella is a member of the High Performance Computing Lab of the University of Lecce/ISUFI, Italy. In July 1999 he graduated "cum laude" in Computer Engineering with Prof. G. Aloisio. His thesis was a study of the use of the GLOBUS toolkit to build a web-based environment for the processing on demand of EOS images. He has been training on Globus with Prof. Carl Kesselman at the Information Sciences Institute of Marina del Rey (Los Angeles, California).

Organiser : G. FOLGER / IT

Thursday 2 December

TECHNICAL SEMINAR

09.00 – 12.00 – IT Auditorium, bldg 31/3-005

14.00–16.00 – Technical Training – Conf. room 593/R-010

LabVIEW Features and Technologies

by Steve ROGERS / National Instruments, Austin (US)

Steve Rogers with National Instruments for the last 16 years, Chief Architect of LabVIEW will present you new LabVIEW features and new LabVIEW products.

The morning presentation is targeted at the existing LabVIEW user base that is interested in taking it further in

their applications.

The afternoon presentation is targeted at those people that have and keep inquiring about Real Time and Embeddedness, and have hesitated to look at LabVIEW as a possible alternative.

MORNING Session:

09.00 –12.00 –IT Auditorium, bldg 31/3-005

LabVIEW Features presentation

Discussion and demos of the following LabVIEW features:

- LabVIEW in the Web (includes discussion on DataSocket, LabVIEW VI Server, etc.)
- LabVIEW Multi-platform
- LabVIEW 6 features, including topic discussions like
 - a) LabVIEW as a generator of DLLs,
 - b) LabVIEW script code
- Object Oriented Programming with LabVIEW

AFTERNOON Session:

14.00–16.00 – Technical Training – Conf. room 593/R-010

LabVIEW Technologies presentation

Discussion of the following LabVIEW technologies soon to become LabVIEW products/features:

- LabVIEW RT
- LabVIEW Embedded in PXI/CPCI chassis
- LabVIEW RT for VME control
- LabVIEW RT and distributed I/O (LV RT in FieldPoint)
- short update on LabVIEW for FPGAs and DSPs

For Information contact: Pierre BAEHLER / IT-CO (75016)

Thursday 2 & Friday 3 December

WORKSHOP ON CHARM PRODUCTION IN NUCLEUS-NUCLEUS COLLISIONS

Thursday 2 December

14.00–18.30 hrs – Conference Room, bldg 40/S2-B01

Friday 3 December

09.00–18.00 – Conference Room, bldg 40/S2-A01

Workshop to review and discuss the motivation for measuring charm production in heavy ion collisions.

Organised by Ulrich HEINZ and Carlos LOURENÇO

See program in

http://home.cern.ch/~alicedoc/chic/hif_2-dec-99.html

Thursday 2 December

THURSDAY SEMINAR

at 14.00 hrs – TH Conference Room, bldg 4

On the possible origin of antimatter regions in the baryon-dominated Universe

by A.S. SAKHAROV / ETH, Zürich

The existence of macroscopic regions with antibaryon excess in the baryon asymmetric Universe with general baryon excess is the possible consequence of baryosynthesis. Diffusion of matter and antimatter to the border of antimatter domains defines the minimal scale of the antimatter domains surviving to the present time. The possibility to test such kinds of models is discussed. The possible mechanism of the origin of antimatter region in the baryon-dominated Universe can be connected to the evolution of a U(1) sym-

metric scalar field at the inflation epoch with a pseudo Nambu-Goldstone tilt emerging after the end of exponential expansion of the Universe. The U(1) symmetry is supposed to be associated with baryon charge. It is shown that quantum fluctuations lead in a natural way to a baryon-dominated Universe with antibaryon excess regions. The range of parameters is calculated at which the fraction of Universe occupied by antimatter and the size of antimatter regions satisfy the observational constraints, survive to the modern time and lead to effects accessible to experimental search for antimatter.

Thursday 2 December

CERN COLLOQUIUM

at 16.30 hrs – Auditorium, bldg 500*

Vision – Gateway to the brain

by Christoph VON DER MALSBURG/Institut fuer Neuroinformatik, Ruhr-Universitaet Bochum and Computer Science Department/University of Southern California, Los Angeles

Is the brain the result of (evolutionary) tinkering, or is it governed by natural law? How can we objectively know? What is the nature of consciousness? Vision research is spearheading the quest and is making rapid progress with the help of new experimental, computational and theoretical tools. At the same time it is about to lead to important technical applications.

Organiser : Luigi DI LELLA / EP Division

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

Friday 3 December

ECFA EUROPEAN COMMITTEE FOR FUTURE ACCELERATORS

at 09.30 hrs – Council Chamber, bldg 503

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|-------|-----|---|
| 09.30 | 1. | Adoption of the Draft Agenda (ECFA/99/199) |
| | 2. | Approval of the Draft Minutes of the Sixty-Fifth Plenary ECFA Meeting (ECFA/99/197/Draft) |
| 09.45 | 3. | Chairman's Report |
| 10.30 | 4. | CERN Matters (Director-General) |
| 11.00 | | Coffee |
| 11.30 | 5. | DESY Matters (A. Wagner) |
| 12.00 | 6. | Perspectives on Long-Baseline Neutrino Physics with CNGS (A. Ereditato) |
| 12.45 | | Lunch |
| 13.45 | 7. | Future Computing Requirements for Lattice Field Theory in Europe (C. Sachrajda) |
| 14.30 | 8. | Publication Policy of Large Collaborations (A. Clark) |
| 14.45 | 9. | Report on Nufact 99 and Physics Aspects of Muon Storage Rings (B. Gavela) |
| 15.15 | 10. | Report on Machine R&D in Europe for Muon Storage Rings (H. Haseroth) |
| 15.45 | 11. | Particle Astrophysics and Gravitational Waves (PANAGIC) (A. Bettini) |
| 16.30 | 12. | Any Other Business |
| 16.45 | | End of Meeting |

Friday 3 December

TECHNICAL SEMINAR

at 11.00 hrs & 14.30 hrs – LHC Auditorium, bldg 30

STATISTICA, High Performance Statistical Software

by Matt COATES / Statistical Scientist, specialising in training and SPC applications & Helene RICHARD / Technical Consultant, specialising in Enterprise Systems implementation

STATISTICA is a Windows-based general statistical and graphical package produced by StatSoft Inc. The package has a unique record of recognition among users and reviewers, having received the highest rating in every independent comparative review in which it has featured, since its first release in 1993.

The morning session will show the ease of use of the package for general graphical and exploratory data analysis, plus examples of some of the more advanced statistical procedures. There will also be an opportunity to ask questions and see any other features of specific interest.

The afternoon session will focus on the range of STATISTICA Enterprise Solutions. These provide powerful groupware facilities for sharing data sets and analytical results, automation of analyses and reports and a visual query builder for accessing data held in large external databases.

The unique features of the STATISTICA Enterprise-wide SPC System (SEWSS) for on-line Quality Control applications will also be demonstrated.

Morning Session :

Introducing STATISTICA

- A few words about StatSoft
- The structure of STATISTICA
- The Graphical User Interface
- Exploratory and graphical analysis using STATISTICA
- New and advanced statistical features
- StatSoft products and services
- Questions and Answers

Afternoon Session :

STATISTICA Enterprise Solutions (SENS & SEWSS)

- Overview of SENS & SEWSS
- Groupware functionality
- Querying external databases
- Automatic reporting facilities
- On-line Statistical Process Control (SPC)
- Automatic alarm notification
- Security features
- Questions and Answers

For Information contact: John MILES / LHC-MMS (74859)

Friday 3 December

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room, bldg 4

Conformal coefficients, renormalons and power corrections – the average thrust as a case study

by E. GARDI / Ecole Polytechnique, Palaiseau

Assuming an Abelian-like dressed skeleton expansion, running coupling effects (renormalons) can be resummed in a renormalization-group invariant way. The coefficients of the “skeleton expansion” are identified as conformal coefficients, defined in the presence of a perturbative infra-red fixed-point. Renormalon resummation and the associated

power corrections at the single dressed gluon approximation are studied in the case of the average thrust in e^+e^- annihilation. It is found that running coupling effects lead to significant higher order perturbative corrections, closing most of the gap between the NLO QCD result and experiment. We extract from the data $\alpha_s = 0.110 \pm 0.002$.

Friday 3 December

CAS ACCELERATOR SEMINAR

at 14.15 hrs – Auditorium, bldg 500*

The Fifteenth Lecture in the John Adams’ Memorial Lecture Series

WIGGLERS AND UNDULATORS –

Recent developments

by Pascal ELLEAUME / European Synchrotron Radiation Facility, Grenoble

Following an introduction to the radiation properties of Undulators and Wigglers, the technology used to build them, namely permanent magnets and electro-magnets, will be addressed. A presentation will then be made of the latest developments. These include high-field devices, variable polarization (planar/circular) undulators, quasi-periodic undulators and small gap (6–3 mm) devices. The Free Electron Laser is a new field of application for which very long undulators (~100m) are needed, requiring superimposed focusing as well as tight tolerance on the magnetic field.

**Tea and coffee will be served after the lecture (~16.00 hrs) in the Salle des Pas Perdus*

Monday 6 December

DETECTOR SEMINAR

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

Development of MicroMegs and recent experimental results

by I. GIOMATARIS / DAPNIA-SACLAY

MicroMegs is a novel two-stage parallel plate avalanche chamber with narrow amplification gap (50-100 μm) defined by the anode plane and a cathode plane made by a thin metal microgrid. It combines high accuracy, high rate capability and robustness. The principle of the operation and basic properties of the detector will be overviewed: the signal development, the gain, the positive ion build-up, the energy resolution, the homogeneity of large area detectors, the efficiency, rate capability and radiation resistance. Special emphasis will be devoted to recent results obtained in high-energy pion beam where a space resolution of 12 μm has been measured and the high rate capabilities of the detector were explored. Finally a novel photodetector operating in the MICROMEGAS mode is presented. Using a solid photocathode (CsI) deposited on the microgrid excellent performances have been observed: high single-electron detection efficiency and a time resolution of 680 ps has been measured. The detector is suitable for many applications in physics or for high rate imaging devices.

Information:

<http://www.cern.ch/CERN/Divisions/EP/Seminars/Welcome.html>

Organiser: Rui RIBEIRO /EP Division

Tuesday 7 December

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium, bldg 500*

Cosmic Rays from 10^{14} eV to 10^{20} eV and beyond

by Alan WATSON / University of Leeds, UK.

The question of the origin of cosmic rays above 10^{14} eV remains unanswered. I will review data - all taken using the extensive air shower technique - on the energy spectrum, arrival direction and mass composition from 10^{14} eV to the highest energies, and describe some of the deductions made about their origin. At the highest energies the surprise is that particles of 10^{20} eV and beyond are seen at all: I will outline some of the attempts made to explain them and the new experiments being developed to extend our knowledge of them.

Organiser : Jasper KIRKBY / EP Division

* Tea & coffee will be served at 16.00 hrs.

Wednesday 8 December

PS SEMINAR

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

Progress on CLIC, a Multi-TeV e^+e^- Linear Collider

by J.-P. DELAHAYE / CERN

The Compact Linear Collider (CLIC) studied at CERN aims at energies as high as 5 TeV in the center of mass and a luminosity of 10^{35} cm⁻² s⁻¹ and is thus an accelerator contemplated for the post-LHC era. The length and cost of the overall complex is minimized by using high accelerating fields (150 MV/m) produced in 30 GHz normal-conducting structures by an intense low energy primary electron beam. The two beam acceleration technique is potentially cost effective to generate the RF power (400 MW/m) required by such machines. In its present version, it relies on a novel scheme which will be tested in a new test facility (CTF3). The results of CTF2 and the design of CTF3 will be presented.

Organiser: B. AUTIN / PS Division

AUTIN / PS DIVISION

Thursday 9 December

SL SEMINAR

at 16.00 hrs* – SL Auditorium, bldg 864

Energy Calibration with Energy Loss Measurements

by Anke-Susanne MUELLER / CERN

The measurement of the W Boson mass at LEP2 requires a determination of the beam energy with the highest possible accuracy.

Present schemes for energy calibration above the W+W- threshold of 80 GeV are based on extrapolations of resonant depolarization measurements to high energy. Since such extrapolations involve systematic uncertainties, alternative methods have been studied which are based on measurements of the energy loss due to synchrotron radiation. Because this energy loss increases with the fourth power of energy, observables sensitive to the energy loss per turn can be used to determine the beam energy.

Three different methods to measure the energy loss have been studied. The first technique is based on the analysis of electron positron difference orbits, the second on

measurements of the damping of horizontal coherent oscillations after an excitation and the last one on studies of the relation between synchrotron tune Qs and total accelerating voltage. As a side product, the analysis of the damping of coherent oscillations gives an opportunity to measure the horizontal detuning with amplitude (anharmonicity) which is an important parameter for the understanding of the dynamic aperture of storage ring optics.

This talk will focus on the description of the different approaches to the energy loss measurement and discuss advantages and disadvantages of the methods.

Information:

<http://www.cern.ch/CERN/Divisions/SL/news/news.html>

Organiser: Werner HERR / SL Division

* Tea and coffee will be served at 15:30 in front of the Auditorium

Wednesday 15 December

PS SEMINAR

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

High Intensity Cyclotrons

by P. MANDRILLON / Cyclotron Laboratory, Nice

Several high intensity cyclotrons have been studied in the framework of the Energy Amplifier proposed by C. Rubbia. After summarising the results of beam dynamics studies for investigating space charge effects and the criteria for getting highly efficient extraction processes, two basic designs will be presented. These two schemes allow to investigate an hybrid cyclotron-linac system, where the beam extracted from the cyclotron is available for further acceleration in LEP-2 superconducting cavities adapted for reduced beta.

Organiser: B. AUTIN / PS Division

POUR INFORMATION / FOR INFORMATION

LAPP - Laboratoire d'Annecy de physique des Particules

F74941 – Annecy-le-Vieux

Informations : Frédérique MARION, tél. 04 50 09 16 00

Vendredi 10 décembre

SEMINAIRE

à 14.00 h – Auditorium du LAPP

Mesure de l'énergie du faisceau à LEP2

par Benjamin TROCME / LAPP

Durant LEP1, l'énergie du faisceau était déterminée grâce à la méthode de dépolarisation résonnante. Cependant, avec la montée en énergie qui est accompagnée de forts effets dépolarisants, cette méthode n'était plus applicable pour LEP2. Jusqu'à cette année, des mesures de champ magnétique effectuées par des sondes à résonance magnétique ont permis d'atteindre des précisions de l'ordre de 50 MeV sur l'énergie du centre de masse. Néanmoins, afin de réduire l'erreur systématique sur la masse du W, des méthodes alternatives ont été développées : mesure à l'aide d'un spectromètre, exploitation des relevés de Fréquence Synchrotron (Qs), et ajustement des événements radiatifs au pic du Z enregistrés par le détecteur Aleph. Après un bref historique sur l'énergie du faisceau, nous évoquerons les dernières améliorations avant la dernière année de prise de données.