

SEMINARS SEMINAIRES

Monday 10 February

ISOLDE EXPERIMENTS COMMITTEE

Open session

at 14.00 hrs – Council Chamber

1. Introductory remarks by the Chairman.
2. Progress report by the ISOLDE Technical Group Leader.
3. ISOLDE Coordinator's report.
4. Beta decay asymmetry in mirror nuclei: $A = 9$ (Aarhus - CERN - Göteborg - Madrid - Stockholm Collaboration); CERN/ISC 97-2/P88; O. Tengblad. (20 mn + 10 mn)
5. β -NMR study on microscopic structure and diffusion behaviour of Li implanted into ZnSe (Marburg - Mainz - Leuven - ISOLDE/CERN Collaboration); CERN/ISC 97-8/P67 Add.1; B. Ittermann. (20 mn + 10 mn)
6. Status Report on Experiment IS351 and request for beam time: Search for ^{87}Rb and investigation of nuclear decay modes near the $Z=N$ line in the border region of the astrophysical RP-process path (CERN - Gatchina - Jyväskylä - Leuven - Lyon - Strasbourg - IN2P3 Collaboration); CERN/ISC 97-3/P63 Add.2; A. Jokinen. (20 mn + 10 mn)
7. Electron paramagnetic resonance investigations of Erbium and Silver related defects (Technische Universität Berlin - CERN/ISOLDE Collaboration); CERN/ISC 97-7/P83 Add.1; A. Näser. (20 mn + 10 mn)
8. Addendum to experiment IS339: The mechanism of β -delayed two-proton emission in the ^{31}Ar decay (Aarhus - CERN - Göteborg - Jyväskylä - Madrid Collaboration); CERN/ISC 97-4/P56 Add.1; M.J. Borge. (20 mn + 10 mn)

Closed session

after the Open Session, 6th Floor Conference Room, Main Building.

Monday 10 February

PPE SEMINAR

at 16.30 hrs – Auditorium*

Two-photon physics with the OPAL detector

by Richard NISIUS / CERN-PPE

The OPAL detector has collected data for centre-of-mass energies $\sqrt{s_{ee}}$ ranging from the mass of the Z^0 boson M_{Z^0} up to 172 GeV. This data provides a rich field for the analyses of two-photon reactions which are used to study the internal structure of the photon. Two-photon scattering processes are usually experimentally divided according to the virtuality of the interacting photons, which is related to the scattering angle of the electrons. In this presentation results for untagged events (no $e^\pm$ is observed in the detector) and for singly-tagged events (one $e^\pm$ is observed) will be shown. The untagged events can be described in terms of the scattering of two quasi-real photons. The analyses of these events focus on the flow of hadronic energy and on the production of jets. The jet-production was found to be well described by next-to-leading order QCD calculations. The singly-

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tagged events will be discussed in the framework of deep inelastic electron-photon scattering. The main interest here is the measurement of the structure functions of the photon in hadronic and leptonic final states. The hadronic structure function and its evolution with $\ln Q^2$ have been determined in the range from 7.5 - 135 GeV². The results obtained help to better understand the structure of the photon. The analyses will be extended into a new energy regime within the LEP2 programme.

*Tea & coffee will be served at 16.00 hrs.

Tuesday 11 February

CERN COLLOQUIUM

at 16.30 hrs – Auditorium*

Vortex nucleation in quench-cooled superfluid phase transition : model for cosmological large-scale structure formation?

by Matti KRUSIUS / Helsinki University of Technology

Rapid phase transitions have become interesting because of their possible role in large-scale structure formation in the early universe. In the laboratory they have been difficult to perform in a controlled manner and much of the present understanding has been derived from numerical simulation work. Recently a new phenomenon was discovered in superfluid helium-3: the nucleation of quantized vortex lines after an absorption reaction of a slow neutron in the presence of superflow. This process allows one to explore a second order phase transition in a clean bulk medium in the extreme limit of fast transitions. The results are consistent with earlier simulation studies on the formation of topological defects in a continuous quantum field and support the Kibble-Zurek mechanism as their origin.

* Tea and coffee will be served at 16.00 hrs.

Wednesday 12 February

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

Fluctuations in the cosmic microwave background

by Joe SILK / Berkeley

I will review the theory of fluctuations in the cosmic microwave background radiation, and describe recent observations.

Various constraints on cosmological models and the prospects for future improvements to these constraints will be discussed.

Thursday 13 February

SL SEMINAR

at 16.00 hrs – SL Auditorium, Preveessin, bldg 864*

The LEP RF Power Generation and Distribution System

by Hans FRISCHHOLZ (CERN)

A survey of the modular layout of the Cu and SC RF-units and the characteristics of the main high-power components used therein is given. The latter comprise klystrons, HV equipment, circulators, waveguide components and coaxial waterloads. The klystron status with respect to numbers, operating hours and failures, as well as the operational experience of the entire RF power plant in 1996, are described. Emphasis is laid on the most frequent trips and major equipment failures; an explanation is given of how we intend to remedy them. Finally the peculiarities of the HV distribution for the four RF half-units to be installed in 1997 are explained.

** Coffee and tea will be served at 15.30 hrs in front of the auditorium*

Thursday 13 February

LHC TECHNICAL SEMINAR

at 16.00 hrs – LHC Auditorium, bldg 30 (7th fl.)

The superconducting cables for the LHC dipoles and quadrupoles

by Luc OBERLI / CERN-LHC

The superconducting cable for superconducting accelerator magnets is a key element as the field level and field uniformity of the magnet is largely determined by their characteristics. The state of the art of the superconducting cables for the LHC main dipoles and quadrupoles will be reported. Critical design parameters such as cable dimensions and compaction will be reviewed. A considerable experience has been gained during the manufacture of cables for the LHC development programme. The main results obtained during this development phase will be presented in light of the fact that the fabrication was shared between several manufacturers.

Thursday 13 February

CERN HEAVY ION COLLOQUIUM

at 17.00 hrs – bldg 160/1-009

Probing the Onset of Deconfinement

by Helmut SATZ / Bielefeld University

We study the suppression of charmonium production in nuclear collisions as probe for the onset of colour deconfinement. Particular attention is paid to the determination of a thermodynamic variable governing the onset, with the aim of cross-correlating the behaviour of other observables as function of this variable. In addition, we will present some recent work on the predicted p_T dependence of the J/ψ "anomalous" suppression.

Organisers: Y. Foka and C. Lourenco

Friday 14 February

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room

Exclusive electroproduction of mesons in QCD

by John COLLINS / CERN and Penn State, U.S.A.

Exclusive electroproduction of mesons ($\gamma^* + p \rightarrow M + p$) has been proposed as a new method to measure the gluon distribution in the diffractive region of small x . I will show how to prove for this process a complete factorization theorem which is valid at all x . New results include the possibility of measuring the polarized parton densities in an unpolarized experiment from the production of pions and

transversely polarized vector mesons. The parton densities are off-diagonal generalizations of the usual ones.

Lundi 17 février

PRÉSENTATION TECHNIQUE

13.30-16.30 h – Bus, parking du bât. 252

Produits du groupe Swagelok®

par Arbor V+F AG,

Swagelok®: Raccords pour le vide et les hautes pressions, avec coefficient de fuite à l'hélium $< 4 \times 10^{-9}$ bar cm^3/s , adaptateurs, connecteurs rapides, flexibles, outillage.

Whitey®: Vannes à pointe, vannes tout ou rien, vannes à bille, vanne de régulation, commandes pneumatiques ou électriques, vanne à pincement, manifolds, cylindres d'échantillonnage. **Nupro®**: Vannes à soufflet, à membrane ou à diaphragme, avec coefficient de fuite à l'hélium $< 4 \times 10^{-9}$ bar cm^3/s . Vannes à pointe, vannes micro-métriques, vannes tout ou rien, vannes de sécurité, clapets anti-retour, filtres, liquides détecteur de fuites, pâtes d'étanchéité. **Cajon®**: Éléments pour vide élevé, raccords filetés, raccords de conversion, raccords à souder, système de soudage orbital automatique.

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Langues : français, anglais, allemand

Information : L. Abel / SPL / 79561

Monday 17 February

LABVIEW USERS MEETING

at 14.00 hrs – LHC Auditorium, bldg 30 (7th fl.)

News and Presentations

National Instruments and LV Users

1. Introduction
V. CARTER & Stefano ZANETTI, NI-CH
2. Labview Internet Toolkit
Stepan RIHA, Labview Team, NI-USA
3. User Presentation : A CERN Project
M. PROBST, Scientific Consultant
4. Labview Real Time : Improvements With Windows NT and PCI Bus
S. ZANETTI, NI-CH
5. User Presentation : Real Time Control
M. SALZMANN, EPFL
6. Printing in Labview
7. User Presentation : Remote DAQ
M. Borkowetz, ALRO Eng.
8. New Products : G Math Toolkit, Vision, BridgeVIEW
9. User Presentation : Image Processing
M. Meissner, Qualimatest Sa
10. Conclusion & Questions

Contact : F. Soso / IT / 72344

Tuesday 18 February

TECHNICAL PRESENTATION

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

New Directions in Data Visualisation with IRIS Explorer

by Jeremy WALTON / The Numerical Algorithms Group Ltd.

The use of IRIS Explorer, a data visualisation toolkit, is described with reference to some examples from the fields of chemistry, computational fluid dynamics and finite element analysis, along with recent work performed using the toolkit at CERN. Some of the new features in the latest version of the package are highlighted, and its relationship to other technologies such as the NAG Fortran 77 library, Open Inventor and VRML are discussed in detail.

Organiser : S. Cannon / CN / 75036

Mardi 18 février

PRÉSENTATION TECHNIQUE

15.00-17.00 h – Bât. 2/1-034

Circuits intégrés durcis aux radiations

par D. CZAJKOWSKI / Space Electronics Inc USA
(rep. REP' FRANCE)

Space Electronics Inc. conçoit, développe et produit une large gamme de composants micro électroniques durcis aux radiations qui permettent la tenue des circuits intégrés standards dans un environnement hostile spatial, par l'utilisation de technologies brevetées, RAD-PAK[®], RAD-COAT[™], PLAS-PAK[™] et LPT[™]

Les circuits concernés :

FPGA - ASIC - MÉMOIRES - FONCTIONS LOGIQUES, ANALOGIQUES - PAL - PLD survivent à des doses cumulées supérieures à 100 Krad (Si) et sont disponibles suivant le standard MIL - std - 883 en classe B ou S.

Langue : anglais

Information : L. Abel / SPL / 79561

Wednesday 19 February

PS SEMINAR

at 11.00 hrs – PS Auditorium

SLC Luminosity : Limitations and Prospects

by F. ZIMMERMAN / SLAC, U.S.A.

The Stanford Linear Collider (SLC) is the only linear collider in the world and understanding why the interaction spot size is about 30% larger than the predicted value appears essential for extrapolating to a future collider. Most machine studies including first measurements with a novel IP laser wire will be discussed and a plan for an 'SLC-2000' high-luminosity upgrade outlined.

Organiser : B. Autin / PS

Thursday 20 February

LHC TECHNICAL SEMINAR

at 16.00 hrs – LHC Auditorium, bldg. 30 (7th fl.)

High precision current control for the LHC power converters

by G. FERNQVIST and J.G. PETT / CERN-SL

LHC studies have shown that the power converter current control will play a more important role than ever before. This presentation, aimed at a general audience, will outline the strategy so far adopted and will explain some of the detailed areas which present particular challenges.

Friday 21 February

TECHNICAL PRESENTATION

at 09.00 hrs – IT Auditorium, bldg 31/3-004-5

CAPSPert (from IHS) Presentation and Demonstration

by Nicola BOSCO / CERN/IT-CE

CAPSPert Semiconductor Database (Caps replacement) is an information package of electronic components such as Integrated circuits, Semiconductors, and Optoelectronic devices. It contains 1.6 million parts and over 9.5 thousand data sheets. The system enables you to search and retrieve specific electronic component information using any combination of operating characteristics, manufacturers name or generic number.

From the results of a query, you can view manufacturers' data sheets, generate a list of pin-for-pin compatible upgrades, downgrades, replacement parts, export data, or print data. The system is accessible from PCs on NICE and from SUN workstations on SUN/CE cluster.

- Product Description
- User Flow:
 - Part Searches,
 - Part Search Results
 - Image Viewer
- Searches Sample
- Questions

Information : N. Bosco / IT / 75025 bosco@cern.ch

Organiser : S. Cannon / IT / 75036