

SEMINARS SEMINAIRES

Monday 19 October

AC SEMINAR

at 11.00 hrs – AT Auditorium
bldg 30/7th floor

Beam loss handling at the SSC : machine, detector and environment protection

by N. MOKHOV / SSCL, USA

Sources of beam loss in the SSC are analyzed. Techniques which reduce the beam-induced energy deposition in Collider components and the impact on the environment are described. Results are presented of calculational studies for the Collider-Utility straight section, the interaction regions and the arcs.

Tuesday 20 October

PRESENTATION

at 10.00 hrs – CN Auditorium
bldg 31/3-005

Oracle Libraries

by Georgina VERITY / Oracle Corporation

Oracle Libraries is a new library automation system dealing with all aspects of library management. Designed by librarians for librarians, the system uses an integrated approach providing in-built flexibility that can be used in all types of library. Oracle Libraries handles Cataloguing, Circulation, Acquisitions and Serials Control and has several features of interest to the HEP community:

- *An intelligent OPAC that allows non-expert retrieval of complex data with automatic relevance ranking.*
- *The ability to link to external objects: word processing files, images, etc.*
- *Selective dissemination of information via profiles of user interests.*
- *Ability to analyse documents at several nested levels in order to cope with conference papers and other complicated publications.*

Oracle Libraries will be demonstrated during the presentation.

Wednesday 21 October

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

Grand unified supersymmetric Higgs bosons as pseudo-Goldstone particles

by Riccardo BARBIERI / CERN

If there is a grand unification scale, why is it so much larger than the W-boson mass? Supersymmetry has everything to do with this question. Some points, though, remain open, one of which can be phrased as follows : why are the Higgs doublets

massless in the limit of unbroken supersymmetry? In the search for new signals of supersymmetric grand unification, I illustrate a possible solution for this problem which was put forward several years ago, but has not, in my opinion, received the attention it deserves. By suitably extending it, I find, as its main phenomenological consequence, the existence of a new quasi-stable particle with a typical gluino/squark mass and with the same colour and charge as a down quark.

Thursday 22 October

CERN COLLOQUIUM

at 16.30 hrs - Auditorium*

High temperature superconductivity : promises and challenges

by Paul C. W. CHU / University of Houston

Six years have passed since the inauguration of the era of high temperature superconductivity (HTS). Unprecedented progress has been made in all areas of HTS : material, science, and application. For instance, more than 75 compounds have been discovered with a transition temperature (T_c) higher than the liquid hydrogen temperature of 20.3 K, intrinsic properties of the compounds are being obtained for the development of a theoretical model following the improvement in the quality of samples, and several thin-film and bulk devices have been developed and tested. After a brief review of the current status of HTS research, I shall present and discuss our recent results on the prospects for HTS's with higher T_c and for bulk HTS's with high trapped field for magnet replicas.

* Tea & coffee will be served at 16.00 hrs

Friday 23 October

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room

Physics of the 5th quark

by Jonathan L. ROSNER / Enrico Fermi Institute & University of Chicago

A review will be presented of what has been learned about the fifth (b) quark since its discovery 15 years ago. Topics will include the spectroscopy of the upilon levels, a survey of weak interactions of the b quark and their role in CP violation, properties of hadrons containing the b quark, and some aspects of top quark physics.

Monday 26 October

PRESENTATION

at 09.00 hrs – CN Auditorium
bldg 31/3-005

Products ESCON, HiPPI, FCS

by Ronald C. CASH / Advanced High-Speed Interconnect development manager / IBM

Monday 26 October

PPE SEMINAR

at 16.30 hrs – Auditorium

Measurements of exclusive b hadron lifetimes

by F. WEBER / University of Wisconsin-Madison,
Aleph Collaboration

We present exclusive b hadron lifetime results based on data taken with the Aleph detector at LEP. Samples of b hadrons are identified via their semileptonic decays: B^0 and B^+ mesons are identified via the decays $B^0 \rightarrow D^{*-} \ell^+ \nu$ and $D^0 \ell^+ \nu X$. BS mesons are tagged using the decay $B_s \rightarrow D_s^- \ell^+ \nu$, and Λ_b baryons through $\Lambda_b \rightarrow \Lambda_c^+ \ell^- \bar{\nu} X$, followed by $\Lambda_c \rightarrow \Lambda^0 X$. The B^0 , B^+ , and B_s lifetimes are obtained from a fit to the decay length distributions of the b mesons, reconstructed using the Aleph silicon microvertex detector. An impact parameter-based fit is performed to obtain the lifetime of the Λ_b . The future prospects of these measurements at LEP shall be discussed.

Mardi 27 octobre

PRESENTATION TECHNIQUE

de 09.00 à 18.00 h – Amphithéâtre AT
bât. 30/7e étage

Melles Griot Industrie (F), propose une exposition de matériel appuyée par deux exposés.

Matériel : composants optiques de précision pour le visible et l'infrarouge (ex. : lentilles et prismes en ZnSe, hublots, miroirs, etc.). Sources laser hélium néon 543 et 633 nm. Composants mécaniques. Instrumentation : analyseur de spectre, analyseur de profil de faisceau. Posters sur autres produits : laser CO₂, tables optiques, miroirs pour rayons X synchrotron.

10.30-11.15 exposé de Guy VIEUX, Gérant de Melles Griot Industrie.

- le groupe international, son implantation, sa stratégie.
- la filiale française, son équipe, ses objectifs.
- les lignes de produits standard : composants optiques, lasers, tables optiques et matériel s'y référant, instrumentation.
- les fabrications spéciales françaises : optique infrarouge, optique pour rayonnements X et UV lointains.

11.15-12.15 exposé de M. GAFFARD, ingénieur en chef de Laserdot (Groupe Aérospatiale).

X-ray Adaptive mirrors : Principle and State-of-the-Art

Adaptive optics systems have proved their efficiency to obtain high resolution images in the field of large astronomical telescopes. The same techniques can be applied to correct X-ray mirror shapes. The paper describes the principle of an adaptive X-ray mirror system (mirror architecture, measurement subassembly, control unit). In a second part, first results obtained during the design study of the ESRF adaptive X-ray mirror are given. The possibility to achieve

cylindrical or elliptical mirror surfaces using adaptive optics techniques are suggested.

Langues : français, anglais

Renseignements : M. Diraison / FI / 4585

Tuesday 27 October

PRESENTATION

09.00-17.00 hrs – CN Auditorium
bldg 31/3-005

Embedded Controllers by Motorola

Tuesday 27 October

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium*

Single and two particle distributions from P-nucleus and nucleus-nucleus collisions

by Barbara JACAK / Los Alamos National Laboratory

Recent results from Experiment NA44 will be presented. Studies of the projectile and target dependence of production of pions, kaons, protons and antiprotons at midrapidity will be discussed. Analysis of Bose-Einstein correlations among pairs of pions and kaons to study the space-time evolution of the collisions will be described. The excellent statistics at small momentum difference constrain the functional form of the correlations. A model of heavy ion collisions is used to guide the interpretation of the correlations.

* Tea & coffee will be served at 16.00 hrs

Mercredi 28 octobre

PRESENTATION

à 10.00 h – Amphithéâtre CN
bât. 31/3-005
par BusinessObjects

BusinessObjects est une solution innovante d'Infocentre Relationnel qui met en oeuvre un dialogue naturel entre l'utilisateur et ses données pour accéder aux bases de données ORACLE en architecture client-serveur à partir de postes MS-Windows 3, Macintosh, écran, etc. Vous accédez aux données de façon intuitive au travers d'Univers, en manipulant des termes qui vous sont familiers, les Objets de votre Métier, sans vous heurter à la barrière technique que constituent le SQL et la structure relationnelle de la base de données. Il vous suffit de définir les Objets que vous souhaitez voir apparaître dans votre résultat, les conditions qu'ils doivent remplir et l'ordre de ces résultats en cliquant à partir de listes de menus déroulants. BusinessObjects dispose d'outils conviviaux qui vous permettent de valoriser les résultats de vos requêtes et de les exploiter pleinement. Le générateur

d'états permet de réaliser des rapports de tous types : listes simples, maître-détail, étiquettes, mailings, etc. Vous pouvez définir et déclencher des graphiques variés : histogrammes, camemberts, aires, etc. D'autre part, BusinessObjects exploite totalement le 'Publier/s'abonner' du Macintosh ou le DDE de Windows 3 pour communiquer facilement d'une application à l'autre. Business Objects est déjà utilisé au CERN dans deux divisions : MT pour le projet de suivi des jobs, et FI pour l'analyse des résultats comptables.

A l'issue de la présentation (effectué à partir d'un poste MS Windows 3), la version Apple Macintosh vous sera présentée en avant première.

Wednesday 28 October

INSTITUTION OF ELECTRICAL ENGINEERS LECTURE

at 16.30 hrs – Council Chamber

Artificial neural networks mathematical and biological approaches

by Pierre MARCHAL & Xavier ARREGUIT /
Centre Suisse d'Electronique et Microtechnique
S.A., Neuchâtel

Lecture in two parts. An introduction to the subject where Dr Marchal will consider what mathematics tell us about processing with respect to the automation (formal neuron), cellular networks, properties such as emergent behaviour and self organization, and accelerators and applications. Then Dr Arreguit will speak on the biological approach, covering the biological neuron, analog VLSI implementation for low level processing (vision, audition, adaptive networks, etc.), self-organisation and future trends. The lecture will end with conclusions and an open discussion. During the talk real-time demonstrations will be presented.

Organized by IEE Swiss Centre. Anyone interested is welcome to attend.

Friday 30 October

HIGH SPEED COMMUNICATIONS UPDATE DAY

at 09.30 hrs – CN Auditorium
bldg 31/3-005

Various groups in CERN are involved in high speed data interconnects or networks, where 'high speed' typically means speeds in excess of 100 Mbit/s. This 'update day' is intended as a way to exchange information between these groups, by a series of rather practical presentations on various approaches. Although the topic is specialised, the day is public.

09.30 SDH and ATM basics
by R. Parker / SL

10.00 ATM as a LAN; pilot project
by B. Carpenter / CN

10.30 ATM for LHC data acquisition
by M. Letheren / ECP

11.00 break

11.30 Experience with Ultramet
by F. Hemmer / CN

12.00 IBM ESCON etc in a nutshell
by C. Jones / CN

12.20 lunch

14.00 FDDI Follow On
by J. Joosten / CN

14.30 Fibre Channel overview
by A.C. Lindem / IBM

15.00 HiPPI overview and work at CERN
R. McLaren / ECP

15.30 SCI overview and work at CERN
A. Bogaerts / ECP

16.00 Discussion session

Information : Brian Carpenter CN/CS /31-3-020/4967 /
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POUR / FOR INFORMATION

LAPP

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Friday 23 October

at 10.45 hrs – LAPP Auditorium

Automatic Feynman diagram computation

by J.A. VERMASEREN / CERN-TH &
NIKHEF