

# SEMINARS

## SEMINAIRES

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### Monday 28 August

#### DETECTOR SEMINAR

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

#### Coherent Cherenkov radiation of $e^+e^-$ -pairs and its application for the measurement of $\gamma$ -beam polarization

by K.A. ISPIRIAN / Yerevan Physics Institute, Armenia

The dependence of Cherenkov radiation intensity of  $e^+e^-$ -pairs, produced by high energy  $\gamma$ -quanta ( $E_\gamma > 20$  GeV) upon 1) the distance from the pair production point, 2) the radiator thickness taking into account the conversion probability and 3) the azimuthal angle  $\phi$  with respect to the  $\gamma$ -beam linear polarization is calculated taking into account multiple scattering. As the estimates show, one can measure the polarization of the existing SPS  $\gamma$ -beams by detecting the expected  $\phi$ -asymmetry with the help of RICH detectors developed in CERN.

### Monday 28 August

#### 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. Study of the statistical properties of the angular distribution of beta-delayed protons following the decay of oriented  $^{73}\text{KrFe}$  (Clarendon Lab., Oxford - CERN - Univ. Maryland, Dept. of Chemistry - Schuster Lab., Manchester); ISC 95-23/P74: J. Rikowska.
5. Status Report and Beam Time Request (IS332) (IPN, Orsay - CRN, Strasbourg - IPN, Lyon - ISN, Grenoble - CNEA, TANDAR, Buenos Aires - IN2P3, Paris); ISC 95-25/P43 Add.1: J. Sauvage.
6. Beta Decay of  $^{58}\text{Zn}$ . A critical test for the charge-exchange reaction as a probe for the beta decay strength distribution (Univ. Jyväskylä, Accelerator Lab. - CERN/ISOLDE - CRN, CNRS-IN2P3, Strasbourg); ISC 95-27/P75: A. Jokinen.

#### Closed session

after the Open Session, 6<sup>th</sup> Floor Conference Room, Main Building.

### Tuesday 29 August

#### CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium\*

#### Review of electroweak results from EPS-HEP 95 Conference / Brussels

by P. WELLS / CERN

New, precise electroweak measurements presented at the recent Summer conferences will be summarised. These include measurements at the Z of the line shape, partial widths, and forward-backward asymmetries from the four LEP experiments and of the left-right asymmetry and  $b\bar{b}$ -bar and  $c\bar{c}$ -bar left-right forward-backward asymmetries from

the SLD collaboration. In the framework of the Standard Model, these measurements are compared to direct measurements of the W and top quark masses from the CDF and D0 experiments.

The combined electroweak measurements are used to constrain the parameters of the Standard Model, and to examine possible extensions to the model.

In view of the relatively poor agreement with the expectations of the Standard Model for the Z partial widths to  $b\bar{b}$ -bar and  $c\bar{c}$ -bar, the principal experimental methods for these measurements will be discussed.

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

### Wednesday 30 August

#### SPECIAL COMPUTING COLLOQUIUM

#### The Inside Story of C++

#### Morning session:

10.00 to 12.00hrs – Auditorium

#### What C++ is and why

by Bjarne STROUSTRUP

This talk consists of three parts. First, the origins, aims, and design rules for C++ are described. Next, the key language features and the design and words about current uses of C++, the C++ standardization effort, and likely future uses of C++. The emphasis is on the reasons why C++ looks the way it does and how it can be used well, rather than on syntactic details or individual language features. I will attempt to illustrate how C++ is the result of a combination of sociological and language-technical principles. The language features mentioned are the ones that most directly supports data abstraction, object-oriented programming, and the design and use of large systems: classes, abstract classes, templates, class hierarchies, run-time type information, namespaces and templates. The speaker does not pretend to be an expert in numerical computation, but he will present the key language and standard library features supporting scientific and engineering computation.

(This talk does not presuppose understanding of C++).

#### Afternoon session:

16.00 to 17.30 hrs – Auditorium

#### The Standard C++ Library: facilities and techniques

Finally, C++ has a standard library of containers, iterators, and basic non-numeric algorithms. It has more; the STL is a theoretically sound, elegant, extensible framework into which users can fit their own containers and iterators so that code can be written to be independent of any particular container or iterator. Importantly, the STL also allows use of built-in C++ types such as arrays and pointers and impose no run-time or space overheads. This talk presents the basic techniques used in the design and implementation of the STL and gives a few simple examples of STL use. In addition, the C++ standard library also provides character strings, input/output, and some support for numerical programming. I will summarize these facilities and their related techniques as time allows.

Bjarne Stroustrup has a Ph.D. in Computer Science from Cambridge University. He is the designer and original implementor of C++ and

the author of "The C++ Programming Language" and "The Design and Evolution of C++". His research interests include distributed systems, operating systems, simulation, design, and programming. B. Stroustrup is the head of Bell Labs' Large-scale Programming Research department and an AT&T Bell Laboratories Fellow. He is actively involved in the ANSI/ISO standardization of C++ as the author of the base document and the chairman of the working group for extensions. Recipient of the 1993 ACM Grace Murray Hopper award.

### Wednesday 30 August

#### THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

#### Gaugino condensation, duality and supersymmetry breaking

by Fernando QUEVEDO / University of Neuchâtel

A general discussion of the gaugino condensation process and its prospects of breaking supersymmetry in supersymmetric field and string theories is presented. Special emphasis is given to finding the low-energy effective action below condensation scale and to the role of different duality symmetries present in perturbative string theory and their survival after this non-perturbative effect.

### Thursday 31 August

#### AC SEMINAR

at 16.30 hrs – AT Auditorium, bldg. 30, 7th floor

#### Superconductors and Magnets : Part 1

by Martin WILSON / CERN, AT-MA

The first lecture will give a general introduction to superconducting materials and their use in magnets.

Part 2, to be given later, will present more details about filamentary composite wires and Rutherford cables.

### Friday 1 September

#### MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room

#### The bormions, an approach to lattice QCD fermion simulations from negative flavour numbers

by Roberto PETRONZIO / Università di Roma  
"Tor Vergata"

We estimate the effects of dynamical fermions in lattice QCD by extrapolating to positive flavour numbers the results from negative values obtained by adding to the pure gauge sector a fermion action where the fields obey a Bose statistics : the bormions.

### Monday 4 September

#### 3<sup>RD</sup> INTERACTIVE MIGRATION USER MEETING

at 14.00 hrs – CN Auditorium, bldg 31/3-005

#### Electronic Mail Services and User Training

by Miguel MARQUINA / CERN

This is the third of the series of User Meetings devoted to the Migration of the User Community off the CERNVM mainframe. This time we will concentrate in two topics which deserve special attention from the user point of view.

The first will be an introduction to the new Electronic Mail Services being offered by CN Division. The second will be a presentation of our current plans concerning user training for the alternative services offered as replacement to CERNVM.

Additional information as well as the agenda may be found in WWW under:

<http://consult.cern.ch/umtf/presentations>

Alternatively you will find it as well in the next Weekly Bulletin.

### Monday 4 September

#### PPE SEMINAR

at 16.30 hrs – Auditorium

#### Electroweak Measurements from D0

by Marcel DEMARTEAU / Fermilab

The cross sections for  $W \rightarrow \ell \bar{\nu}$  and  $Z \rightarrow \ell \ell$  ( $\ell=e,\mu$ ) production in ppbar collisions at  $\sqrt{s}=1.8$  TeV will be presented together with the width of the  $W$ -boson, derived from the ratio of these measurements. Direct measurements of the trilinear couplings ( $WW\gamma$  and  $WWZ$ ) of the electroweak gauge bosons are derived from the study of diboson production such as  $W\gamma$ ,  $W^+W^-$  and  $WZ$ . These measurements test the non-abelian self-couplings of the  $W$ ,  $Z$  and photon, one of the most direct consequences of the  $SU(2)_L \otimes U(1)_Y$  gauge symmetry. Based on ppbar  $\rightarrow \ell \bar{\nu} \gamma + X$  ( $\ell=e,\mu$ ) events, ppbar  $\rightarrow W^+W^- \rightarrow \ell \ell' \nu \bar{\nu}$  ( $\ell=e,\mu$ ) and ppbar  $\rightarrow e \nu + \text{jets}$ , limits on anomalous  $WWZ$  and  $WW\gamma$  couplings are derived. Also limits on  $ZZ\gamma$  and  $Z\gamma\gamma$  couplings are presented. A study of the extraction of  $\alpha_s$  from the measurement of  $W + \text{jet}$  production is briefly discussed.

### Tuesday 5 September

#### LHCC REVIEW BOARDS (LCRB, LDRB, LERB)

#### Open session

at 09.00 hrs – Council Chamber

09.00 – 09.30 RD11 Status Report : Embedded architectures for second-level triggering [EAST] (NIKHEF-H Amsterdam–Inst. of Atomic Physics and Polytecnic Inst. Bucharest–Central Research Inst. for Physics Budapest–CERN–NBI Copenhagen–RAL–LHSE JINR Dubna–Inst.für Informatik Jena–Inst. of Nucl. Physics Krakow–Royal Holloway & Bedford New College London–Univ. College London–Manchester Univ.–Dept. of Computer Science V Mannheim–Inst. of Computer and Information Science Prague–Weizmann Inst. of Science Rehovot–Federal University Rio de Janeiro–Utrecht Univ.–Inst. of High Energy Physics Zeuthen; LHCC 95-45/LCRB Status Report/RD11; R.K. Bock).

09.30 – 10.00 RD13 Status Report: A scalable data taking system at a test beam for LHC (CERN–CPP Marseille–Budker Institute, Novosibirsk–Oxford–Pavia; LHCC 95-47/LCRB Status Report/RD13; L. Mapelli).

10.00 – 10.30 RD24 Status Report: Application of the scalable coherent interface to data acquisition at LHC (CERN–Dept. of Physics, Univ. of Oslo–LBL Berkeley–INFN La Sapienza Rome–INFN Lecce–IHEP Protvino–Univ. Valencia–Polytechnical Univ. of Valencia–RAL–Univ. Manchester–CIEMAT Madrid–Dolphin Interconnect–Solutions A.S. Oslo–Digital Equipment Corporation, Joint Project at CERN–Apple Computer Inc. Cupertino–Thomson–TCS Semiconducteurs Specifiques Orsay; LHCC 95-42/LCRB Status Report/RD24; H. Müller).