

SEMINARS SEMINAIRES

Monday 6 May

AC SEMINAR

at 11.00 hrs – SL Auditorium
Prévessin, bldg 864, 1st floor

Introduction to Beam Instrumentation in Circular Accelerators

by Lucien VOS / CERN-SL

The talk is intended as a guide for non-specialists. Many beam properties can be measured but only a limited sample will be presented: measurement of beam position, beam intensity, betatron tune, transverse beam size. The actual monitor will be described and some features of signal processing will be explained. Differences between proton and electron machines will be indicated where it is appropriate.

Monday 6 May

PPE SEMINAR

at 16.30 hrs – Auditorium

L3 measurements of $e^+e^- \rightarrow \tau^+\tau^-$

by J. Mnich / RWTH Aachen

The L3 experiment has collected about 2700 Z^0 decays into $\tau^+\tau^-$ during the 1990 running period. The measured cross sections and forward-backward asymmetries will be presented. The recorded events have been used to determine the decay properties of the tau-lepton: topological branching ratios, leptonic branching fractions and the tau-lifetime. Since for the analysis of tau-pairs the L3 vertex chamber (TEC) is of great importance its layout and the performance achieved in the last year will be discussed in detail.

Mardi 7 mai

PRESENTATION TECHNIQUE

09.30-12.00 h & 13.30-16.30 h – bât.17/1-007

Philips SA, dpt Science et industrie présente une nouvelle famille d'analyseurs logiques. Ces instruments, d'une toute nouvelle génération, se caractérisent par une architecture double analyse par voie, des innovations révolutionnaires et une utilisation remarquablement aisée. Ils sont complétés par des désassembleurs performants et des adaptateurs légers, ayant une influence extrêmement faible sur le circuit mesure.

Exposé: à 10.00 h, durée 1 heure, répété à 14.30 h

Langue: français

Renseignements: M. Diraison / FI / 4585

Tuesday 7 May

CN PRESENTATION

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

MIPS Computer Architectures

Willi HAAS / MIPS Marketing & Technology Manager, Germany

Ursula PHILIPP / MIPS Senior Sales Representative, Germany

Gerard PAYOT / PRIME Senior Sales Representative, Switzerland

MIPS is a leading supplier of RISC technology for the computer systems and embedded control markets. The company licenses its RISC architecture, optimising compilers and system software to its semiconductor and systems partners world-wide. In addition, MIPS manufactures and markets a family of high performance computer systems that range from desktop workstations to deskside and data centre servers, sold through OEMs, VARs and systems integrators. MIPS will present its RISC computer architecture, a complete overview of its computer systems, and a brief preview of the future of its technology.

- MIPS RISC Technology: RISC v. CISC, optimising compilers, operating systems.
- MIPS RISC Architectures: R3000 (CMOS), R6000 (ECL), R4000.
- Why do we need 64 bits? The true story.
- Advanced Computing Environment (ACE).
- MIPS Systems Overview: Desktop workstations, deskside servers, high-end data servers, application software (RISCware).

Organizer : C. Parkman / CN, pmn@cernvm

Tuesday 7 May

FIRST MEETING ON

PLANNING THE FUTURE OF ULTRA LOW ENERGY ANTIPROTON PHYSICS

14.00 to 17.30 hrs – bldg 4, Room S-13 (Basement)

This meeting was originally scheduled for 8 February and postponed on account of the international travel situation

Introduction – J. Eades (10 mn)

ULEAP in the LEAR CONTEXT – P. Lefèvre (20 mn)

Options and facilities for ULEAP – J. Eades (20 mn)

Ultra high precision spectroscopy and antihydrogen – T. W. Haensch (30 mn)

Tests of fundamental principles with antimatter systems – R. J. Hughes (30 mn)

Reserved for other contributions (see below) (30 mn)

Round Table discussion on aims, methods and collaborations (45 mn)

Short contributions on other topics are welcome. Please contact J. Eades / 4273 / EADES@VXCRNA, or R. Landua / 2051 / LANDUA@CERNVM if you wish to present a talk. Please invite interested colleagues to attend.

Tuesday 7 May

PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium*

Asymptotic properties of hadron matter in four-velocity space

by A. M. BALDIN / Joint Institute for Nuclear Research, Dubna

The JINR programme in the domain of relativistic nuclear physics is discussed. A relativistically invariant description of multiple particle processes is suggested. A large body of experimental material including data on relativistic nuclear collisions and on hadron-hadron, lepton-hadron and electron-positron collisions is analysed.

* Tea and coffee will be served at 16.00 hrs

Wednesday 8 May

PS SEMINAR

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

Pion and muon acceleration at the UNK-VLEPP facility

by T.A. VSEVOLOZHSKAYA / Institute of Nuclear Physics, Novosibirsk, USSR

The possibility for an efficient production and acceleration of pions and muons beams with an energy up to 2 TeV is considered for the UNK-VLEPP facility. Using the 3 TeV proton production beam for UNK, yields of 5×10^{-2} pions and 1×10^{-2} muons per incident proton have been achieved. The matching of proton beam time structure with that of the VLEPP, pion collection from a target, linac protection from primary proton beam, and optimisation of the linac magnetic structure for the increase in capture efficiency of pions are some of the problems that will be discussed.

Wednesday 8 May

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

LEP news: tough noodles ahead

by Alvaro DE RUJULA / CERN

LEP-1 may be used to search for unconventional sources of CP violation. Crucial to LEP-2 is the search for all manners of non-standard couplings of gauge bosons. Most of the literature on these subjects is misleading, given its cavalier slight of gauge invariance: an inescapable 'hypothesis', as we abundantly recall. The 'new physics' sensitivity has been greatly exaggerated: in all sensible extensions of the standard lore, gauge invariance and the existing empirical constraints significantly reduce the inflated prospects. We pinpoint and study the few observables that survive this shipwreck.

Wednesday 8 May

COMPUTING FORUM

at 16.00 hrs – CN Auditorium
bldg 31/3-005

Discussion on CMZ and source code management initiated

by A. Rademakers/CERN-CN

Following the release of the new CMZ package for general use, the time is ripe to examine the use of source code management systems generally, including the extent to which they might one day be replaced by vendor-supplied tools.

Friday 10 May

HISTORY OF CERN SEMINAR

at 14.00 hrs – Theory Conference Room

The development of theory at CERN in the 1970s

by John ILIOPOULOS / Ecole Normale Supérieure

The seminar will provide an opportunity to discuss the structure and content of the speaker proposed chapter for Volume III of the History of CERN, to be published in 1992.

Monday 13 May*

CERN COLLOQUIUM

at 16.30 hrs – Auditorium**

A Program towards a Fusion Reactor

by P-H. REBUT / JET Joint Undertaking, Abingdon, UK

Near breakeven conditions have been attained in the JET tokamak, with beryllium as the first wall material. A fusion triple product ($n_D \tau_E T_i$) of $8-9 \times 10^{20} \text{ m}^{-3} \text{ s keV}$ has been reached (within a factor of 8 of that required in a fusion reactor). However, this has only been achieved transiently. At high heating powers, an influx of impurities still limits the achievement of better performance and steady state operation. In parallel, an improved quantitative understanding of fusion plasmas has emerged from the development of a particular plasma model. Good quantitative agreement is obtained between the model and JET data. The main predictions are also consistent with statistical scaling laws. With such a model, a predictive capability begins to emerge to define the parameters and operating conditions of a DEMO, including impurity levels. Present experimental results and model predictions suggest that impurity dilution is a major threat to a reactor. A divertor concept must be developed further to ensure impurity control, before a DEMO can be constructed. A New Phase for JET is planned in which an axis-symmetric pumped divertor configuration will be used to address the problems of impurity control, plasma fuelling and helium ash exhaust. It should demonstrate a concept of impurity control and demonstrate the operational domain for such a device. A single Next Step facility (ITER) is a high risk in terms of physics, technology and management, since it does not provide a sufficiently sound foundation for a DEMO. A Next Step Program is proposed, which could comprise several complementary facilities, each optimised with respect to specific clear objectives. In a minimum program, there could be two Next Step tokamaks, and a Materials Test Facility. Such a program would allow division of effort and sharing of risk across the various scientific and technical problems, permit cross comparison and ensure continuity of results. It could even be accomplished without a significant increase in world funding.

* Please note unusual day

** Tea and coffee will be served at 16.00 hrs

Tuesday 14 May

SYMPOSIUM – HISTORY OF CERN, 1966-1980

Morning session : Council Chamber

- 09.30 D. Pestre – *The choice of big equipment*
10.15 J. Krige – *Some remarks about teamwork*
11.00 Coffee break
11.15 I. Gambaro – *Electronic detectors at CERN*
12.00 A. Russo – *Construction & exploitation of the ISR*

Lunch break

Afternoon session : Auditorium

- 14.00 L. DiLella – *Strong interaction physics*
14.45 K. Winter – *Weak interaction physics*
15.30 Coffee break
15.45 G. Hansen – *The SC and Isolde*
16.30 F. Bonaudi – *Accelerator art and expertise at CERN*
17.15 Closing remarks

Please note that John Iliopoulos, who is writing the chapter on theory, will give his talk at 14.00 hrs on Friday 10 May in the Theory Conference Room, bldg 4/3-006.

Tuesday 14 May

PRESENTATION

at 10.00 hrs – Room 13/2-005

High transaction database processing using a parallel transputer system

by Oracle Corporation & Meiko Ltd.

Oracle Corp. and Meiko Ltd will present their joint work which has the aim of achieving a high transaction version of the Oracle RDBMS on the Meiko transputer system.

Note the unusual location

Organizer : Sverre Jarpe /CN, sverre@cernvm.cern.ch

Tuesday 14 May

CN PRESENTATION

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

New board level & systems products

by Motorola

Motorola will present their latest VMEbus board and systems level products, both hardware and software.

Organizer : Chris Parkman /CN,
pmn@cernvm.cern.ch

Wednesday 15 May

PS SEMINAR

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

A tau –charm factory in Spain : prospects after the Sevilla meeting

by Y. BACONNIER / CERN-PS

TRAINING AND EDUCATION ENSEIGNEMENT

ENSEIGNEMENT GENERAL

Tél. 5811 ou 2844 (le matin)

Jeudi 16 mai

de 13.00 à 13.30 h – Amphithéâtre

Science pour tous

par R. CARRERAS

Mardi 7 mai

LES SCIENCES AUJOURD'HUI

à 20.00 h précises – Amphithéâtre

(jusqu'à environ 22.00 h)

par R. CARRERAS

Rafel Carreras, responsable du programme d'Enseignement général du 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)

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