

SEMINARS SEMINAIRES

Monday 8 January

EF/AT SEMINAR

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

Present status of TRISTAN superconducting rf-cavities

by Yuzo KOJIMA / KEK, Japan

Thirty-two 5-cell superconducting niobium cavities have been installed in TRISTAN. The operational experience with beams is reported.

Monday 8 January

EP SEMINAR

at 16.30 hrs – Auditorium

Tau physics at a Tau-Charm Factory

by J. J. GOMEZ-CADENAS / Santa Cruz IPP
& IFIC Valencia

The Tau-Charm Factory is a proposed new e^+e^- collider, able to operate in the energy range of 3 to 4.2 GeV at a luminosity of $10^{33} \text{ cm}^{-2}\text{s}^{-1}$. This luminosity yields typical rates of the order of 10^7 pairs per year. This high statistical samples, together with a state-of-the-art, high precision detector will allow a much better understanding of the tau lepton than at present. In this talk we present the most relevant tau physics experiments that can be performed in the tau-charm factory. We show that the limits on the neutrino mass can be reduced to the order of 2 MeV. We discuss our technique to measure the tau branching fractions in an unbiased, background-free way, yielding to precisions that will allow the test of the radiative corrections to the decays $\tau \rightarrow e(\mu)\bar{\nu}\nu$, $\tau \rightarrow \pi(K)\nu$. We discuss the determination of the weak current in the tau-neutrino-W vertex. Finally, we discuss the sensitivity that can be reached for some of the most relevant rare tau decays. We emphasize how these experiments can lead to possible 'new physics' in the tau sector.

Mardi 9 janvier

PRESENTATION TECHNIQUE

de 10.00 à 12.00 h – Amphithéâtre LEP

Corning France (USA/F) propose un exposé sur les produits suivants :

- *silice synthétique 7940, très grande pureté, très large bande spectrale de l'UV profond (seuil à 160 nm) au proche IR, propriétés optiques, thermiques, dimensions disponibles $> 1 \text{ m}$, homogénéité d'indice $\Delta n > 1 \times 10^{-6}$.*

- *ULE, Ultra Low Expansion glass 7971, dérivé de la silice synthétique, à coefficient de dilatation nul (à 10^{-9} près).*
- *Polarcor 8612, filtres polarisants IR en verre à encombrement minime et très fort taux d'extinction (1 pour dix mille)*
- *Ceren 17, 25 et 32, verres pour détecteur et calorimètre à effet Cerenkov*

Langues : anglais ou français selon auditoire
Renseignements : M. Diraison / FI / 4585

Tuesday 9 January

PRESENTATION

at 11.00 hrs – DD Auditorium
bldg 31, 3-005

Very Long Instruction Work (VLIW) Technology

MULTIFLOW's software driven approach to
high performance computing

by J.A. FISHER / MULTIFLOW Europe SA

This presentation describes MULTIFLOW's software-first VLIW and Trace Scheduling technology and the MULTIFLOW TRACE/300 family of computers. The TRACE is a family of general-purpose, easy to use, very high performance scientific/engineering computers, which derive their performance from the large number of instructions which are executed in parallel. Instruction-level parallelism is today's hottest development topic among computer architects. The basic idea is for a single computer to issue as many operations as possible whenever the clock ticks. Virtually every RISC development project has now turned its attention to this topic. As a result of MULTIFLOW's software driven approach to high performance the TRACE achieves supercomputer performance without requiring the user to spend significant time rearranging his algorithms and also takes full advantage of both vectorized and non-vectorized code.

Wednesday 10 January

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

Title to be announced

by J. MAÑES / Bilbao

Wednesday 10 January

THEORETICAL SEMINAR

at 16.00 hrs – TH Conference Room

Baryonic dark matter

by J. SILK / U.C. Berkeley

A significant fraction of the mass of the Universe is non-visible. Evidence for its baryonic nature will be reviewed.

Wednesday 10 January

COMPUTER SEMINAR

at 16.00 hrs – Auditorium*

Mach : technical innovations & key ideas

by Daniel P. JULIN / Carnegie Mellon University

'Mach' is a multiprocessor operating system kernel under development at CMU. The targeted computing environment spans a wide class of systems, providing basic support for large, general purpose multiprocessors, smaller multiprocessor networks, individual workstations and personal computers. Mach has already been ported to the VAX family of computers, the IBM 370, IBM RT-PC, SUN 3 and 4 (SPARC), MIPS, Intel 386, Mac II, the Encore Multimax, the Sequent Balance, the BBN Butterfly Plus and a number of experimental computers, notably the IBM RP3 and the IBM ACE multiprocessor workstation. In addition to binary compatibility with Berkeley's current UNIX 4.3 BSD release, Mach provides a number of new facilities not available there, including support for tightly and loosely coupled multiprocessors, flexible memory sharing, lightweight processes (threads), a capability-based IPC facility and file mapping. The basic Mach abstractions are intended not simply as extensions to the normal UNIX facilities but as a foundation upon which new UNIX facilities and UNIX-like systems can be built. This talk will provide a brief overview of Mach and describe the key ideas and technical innovations that have gone

into its development. Mach's current status and its future directions will also be discussed.

Daniel Julin's Electrical Engineering degree is from the Brussels Free University, and his MSc and (future) PhD are from Carnegie Mellon. He has been a member of the Mach project at CMU since 1984. His interests within that project include networking, object-oriented program development, security and operating system emulation.

* Tea & coffee will be served at 15.30 hrs.

Tuesday 16 January

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium

Search for new particles in ALEPH

by Sau Lan WU / University of Wisconsin-Madison

Wednesday 17 January

DD SEMINAR

at 16.00 hrs – DD Auditorium
bldg 31, 3-005

The K2 Project

by Marco ANNARATONE / ETH Zurich

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ENSEIGNEMENT GENERAL Tél. 2844-5811

Jeudi 11 janvier

de 13.00 h à 13.30 h – Amphithéâtre

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15, 16, 17, 18 January

11.00 to 12.00 hrs – Auditorium

New physics at LEP and future machines

by R. BARBIERI / University of Pisa

I discuss the main predictions yet to be tested of the standard model :

- i) the existence of the top quark*
- ii) the existence of the Higgs boson*
- iii) a strict Cabibbo-Kobayashi-Maskawa picture of flavour physics*

I survey the general problems encountered where one looks beyond the standard model physics.

I describe the experimental signatures of the possible extensions of the standard model, with special emphasis on supersymmetry.