

SEMINARS SEMINAIRES

Postponed from last week

Monday 5 September

PPE SEMINAR

at 16.30 hrs – Auditorium

The search for $K^+ \rightarrow \pi^+ \nu \nu$: new results on rare kaon decays from BNL E-787

by André S. TURCOT / TRIUMF

The search for the rare decay $K^+ \rightarrow \pi^+ \nu \nu$ performed at Brookhaven National Laboratory using the E-787 Spectrometer is described. Based on the 1989-1991 data set, an upper limit (preliminary) for the $K^+ \rightarrow \pi^+ \nu \nu$ branching ratio of 3.0×10^{-9} at the 90% confidence level has been set. For the two-body decay $K^+ \rightarrow \pi^+ X^0$, where X^0 is a hypothetical massless weakly interacting particle, a 9% C.L. upper limit of 6.1×10^{-10} has been obtained. The experiment also searches for other rare kaon decays. For the decay channel $K^+ \rightarrow \pi^+ \mu^+ \mu^-$, a preliminary result for the branching ratio of $(4.7 \pm 1.3 \pm 1.4) \times 10^{-8}$ has been set. This represents the first observation of this decay mode.

Tuesday 6 September

SPS & LEAR EXPERIMENTS COMMITTEE

Open session

at 09.00 hrs – Auditorium

1. A search for centrally produced non- $\bar{q}q$ mesons in proton proton interactions at 450 GeV/c using the CERN Ω spectrometer and GAMS-4000 - [extension of the WA91 and NA12/2 experiments] (Annecy LAPP, Athens, Birmingham, CERN, Dubna JINR, IISN Belgium, Los Alamos LANL, Manchester, Protvino IHEP, Tsukuba KEK/SPSLC 94/22 / P281) : A. Kirk.
2. Status report on PS196 : G. Gabrielse.
3. Status report on the Lead beam : R. Cappi.

Closed session

at 10.30 hrs to be continued at 14.00 hrs, 6th floor Conference Room.

Tuesday 6 September

SEMINAR

at 14.30 hrs – SL Auditorium
bldg 864/1st floor

The Wuppertal experiment to test Newton's gravitational law

by H. PIEL / Wuppertal University

In recent years a new method to test Newton's gravitational law and to determine the Gravitational constant G in a laboratory experiment has been developed at the University of Wuppertal. In this seminar the method based on a Fabry-Perot Microwave resonator is introduced and the latest results for G are given. This experiment allows the test of the $1/r^2$ law in the range of 0.5 to 2 m and offers an alternative to the classical "Cavendish Torsion Balance".

Tuesday 6 September

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium*

Studies of meson production in Z decays at LEP

by Y.J. PEI / Aachen & L3

Over 10 million jets with a well-defined initial parton configuration have been recorded by the four LEP experiments. We review the results on meson production in hadronic jets produced in Z decays, with special emphasis on the L3 analysis of neutral mesons. The combined LEP results are compared with the JETSET and HERWIG Monte Carlo predictions. Furthermore the momentum spectra of identified particle species are compared with the predictions of an analytical QCD calculation.

* Tea & coffee will be served at 16.00 hrs.

Friday 9 September

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room

Selected topics in kaon decays

by Giancarlo D'AMBROSIO / University of Naples

A brief introduction to Chiral Perturbation Theory (ChPT) in the strong and in the weak sector is presented. Then several weak decays of kaons (but not $K \rightarrow 2\pi$) are analyzed, with the purpose of either testing the theory or exploring the possibility to observe CP violation in channels other than $K \rightarrow 2\pi$. The following channels are studied: $K \rightarrow 3\pi$, $K \rightarrow \pi\pi\gamma$, $K_S \rightarrow 2\gamma$, $K_L \rightarrow \pi^0\gamma\gamma$ and $K_L \rightarrow \pi^0 e^+ e^-$. Relevance is given to physical goals achievable in the present or near future experiments. Thus time correlations in the interferometry machines like LEAR or DAFNE are studied.

Monday 12 September

PRESENTATION

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

The Alpha AXP 21164 Quad-Issue Microprocessor, and new 21064A-based Alpha AXP Systems (over 52 CERN Units)

by Dileep BHANDARKAR / Technical Director, Systems Hardware Group Digital Equipment Corporation

Mr Bhandarkar will describe the recently announced Alpha AXP 21164 Microprocessor chip, an entirely new implementation of the Alpha architecture. The 21164, operating at over 300 MHz, is a 4-way issue superscalar chip with level 1 and level 2 caches on-chip. New systems, including a six-processor SMP machine, based on the 21064A chip (a 275 MHz version of the 21064 with larger caches) will also be described. The new DEC 3000 Model 900 workstation delivers over 52 CERN units (189 SPECint92) with the new 21064A chip.

Mr. Bhandarkar joined Digital in 1978, managing the evolution of the VAX architecture. He was the chief architect for VAX vector processing, and co-architect of the PRISM RISC architecture on which Alpha is based. He holds 14 U.S. patents, is a Senior Member of IEEE and the author of more than 30 technical publications on computer architecture, semiconductor technology, and performance analysis.

* Note unusual time

Monday 12 September

DETECTOR SEMINAR

at 10.30 hrs * – ECP Conference Room
bldg 13/2-005

3D-Flow with less than 100K gates versus processors with millions of transistors for Level-1 trigger

by Dario CROSETTO / SSC-Laboratory

The advent of powerful microprocessors that surpass our number-crunching requirements has not relieved the need of HEP experimenters to design and build ASICs for front-end and triggering applications, because a simpler and specialized circuit is still required. One such circuit is the 3D-Flow processor, which is almost equivalent in number of gates to the "glue" logic alone required in a powerful microprocessor system. Better described as an architecture rather than merely an ASIC, the 3D-Flow allows the user to build a programmable Level-1 trigger. Test vectors, including several Level-1 trigger algorithms, have been generated for the 3D-Flow ASIC. Pattern recognition algorithms for a calorimeter take less than 500 ns to execute. The system also implements sophisticated tracking and track-matching algorithms, and can execute 2000 steps in SIMD operation mode in less than 50 microseconds in each processor.

* *Please note unusual time.*

Monday 12 September

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. Proposal: Nuclear, electrical and optical studies of hydrogen in semiconductors (Konstanz - Berlin - Duisburg - Erlangen - Freiburg - Jena - Lisboa - Caen - Troitzk Collaboration); ISC 94-15/P65; D. Forkel.
5. Proposal: Test of new PAC probes for hyperfine interaction studies at Isolde (Lisboa - Berlin - CERN Collaboration); ISC 94-16/P66; J.G. Correia.
6. Status Report on experiment IS333 and request for beam time: Neutron-rich silver isotopes produced by a chemically selective laser ion-source (Kernchemie Mainz - Russian Academy of Sciences Troitzk - Nuclear Chemistry Maryland - Isolde Collaboration); ISC 94-17/M4; K.-L. Kratz.

Closed session

after the Open Session, 6th Floor Conference Room, Main Building, continuing on Tuesday 13 September from 09.30 hrs, if necessary.

Tuesday 13 September

COMPUTING SEMINAR

at 14.00 hrs – PS Auditorium

Hyper-G : better than WWW

by Frank KAPPE / Graz University

* *Please note unusual day, time & venue!*

Mardi 13 septembre

PRESENTATION TECHNIQUE

14.00-16.30 h – bât. 17/1-007

Séminaire sur l'Analyseur de gaz Type 1301

par BRÜEL & KJAER France (DK)

Langue : français.

Renseignements : M. Diraison / FI-A / 4585

Tuesday 13 September

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium

Glasgow Conference Summary

by P. DARRIULAT / CERN

Wednesday 14 September

COMPUTING SEMINAR

at 16.00 hrs – CN Auditorium

bldg 31/3-005

Hyper-G : Better than WWW

by Frank KAPPE / Institute for Information Processing and Computer Based new Media (IICM), Graz University of Technology

Friday 16 September

LEP EXPERIMENTS COMMITTEE

Open session

at 09.00 hrs – Council Chamber

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|---------------|--|
| 09:00 - 09:25 | LEP machine status (<i>Roger Bailey</i>) |
| 09:25 - 09:55 | Status report on the bunch-trains working group (<i>Tiziano Camporesi</i>) |
| 09:55 - 10:20 | Status report on the LEP 2 detector masks (<i>Georg Von Holtey</i>) |
| 10:20 - 10:30 | LEP 2 workshop update (<i>Fabio Zwirner</i>) |
| 10:30 - 11:00 | Coffee break |
| 11:00 - 11:40 | Proposal to test longitudinal spin polarization at LEP (<i>Alain Blondel</i>) |
| 11:40 - 12:00 | Proposal to install scintillating tiles in the OPAL endcap (<i>Austin Ball</i>) |
| 12:00 - 12:20 | Proposal to search for cosmic ray coincidences with detectors in the LEP tunnel (<i>Horst Wachsmuth</i>) |
| 12:10 - 14:00 | Lunch |

Close session

at 14.00 h, 6th floor Conference Room

COGNE Meeting of the SPS & LEAR Committee

A special meeting of the SPSLC will be held in COGNE/Val d'Aosta in April 1995. The purpose of the meeting is to review present and near-future activities at the SPS and LEAR, and to consider possibilities and options for the future compatible with the long-term plans of the Laboratory. The Chairman would like the groups working at the SPS and LEAR, or groups which have in mind to submit proposals, to forward in due time a short report on their plans. It should be understood that these prospective ideas would not be regarded as binding for the future plans of the group, but they will be extremely useful to help orient the SPS and LEAR programmes and to guide policy. Interested physicists should contact their Spokespersons.

SPSLC Secretariat (tel. 4270)/E-mail : SPSC@CERNVM