

SEMINARS SEMINAIRES

Monday 7 March

PPE SEMINAR

at 16.30 hrs – Auditorium

L3 Results of model independent analyses of the Z lineshape

by Sabine RIEMANN / DESY-IfH Zeuthen

The different model-independent approaches to the Z lineshape are presented. A minimum of assumptions is necessary for the S-Matrix approach. The results of a fit to the L3 data in this framework will be discussed and compared to the other "model independent" fits. The γZ interference turns out to be highly correlated with the Z mass. This is important for the determination of the error of the Z mass in the model-independent fits. Scanning the lineshape at an additional energy point, which could be located about 6 GeV below the Z peak, the uncertainty of the γZ interference may be reduced and, consequently, the error of the Z mass in a model-independent analysis is decreased. These considerations are important for the interpretation of the high precision measurements of the Z line shape in 1993/1994.

Tuesday 8 March

ISOLDE SEMINAR

at 16.00 hrs – TH Conference Room

The CRYRING-facility in Stockholm

by K.-G. RENSFELT / Manne Siegbahn Laboratory, Stockholm, Sweden

The CRYRING facility in Stockholm consists of a small acceleration- and storage ring with electron cooling, a preaccelerator and two injectors. Highly charged ions are produced in an electron beam ion source and singly charged ions of atoms and molecules in a plasmatron source. An RFQ is used as an intermediate accelerator. The scientific program is focused on atomic collision physics using the low energy beam directly from the EBIS as well as the cooled circulating beam in the ring. The electron cooler which also serves as an electron target has recently been improved to give much colder electrons. The facility and the results of the first one and a half years of scheduled operation will be reviewed.

Wednesday 9 March

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

Standard model CP-violation and baryon asymmetry

by Belen GAVELA / CERN

Simply based on CP ingredients, we argue against a Standard Model explanation of the baryon asymmetry of the Universe in the presence of a first-order phase transition. A CP-asymmetry is found in the reflection coefficient of particles hitting the phase boundary created during the electroweak transition. The problem is analysed both in an academic zero-temperature scenario and in the realistic finite-temperature one. In the latter case, a crucial role is played by the damping rate of quasi-particles in a hot plasma, which is a relevant scale together with M_W and the temperature. The effect is orders of magnitude below what observation requires, and indicates that non-standard physics is indeed needed in

the cosmological scenario. The analysis gives insight into how to address the issue in beyond-the-Standard-Model scenarios.

Wednesday 9 March

CERN COMPUTING COLLOQUIUM

at 16.00 hrs – Auditorium*

Riding elementary particles

by Eyal COHEN / Saclay

Born from the wish to let the general public have a close look at elementary particles in interaction, the DEXTER particle system is now an open tool allowing the simulation and visualization of systems containing millions of objects. The initial dream has come true with the virtual reality piece HEUS (Hot Early Universe Soup), an unguided tour of the primordial quark-gluon plasma. DEXTER will be described and illustrated with video animations.

Eyal Cohen received his PhD in particle physics from the Weizmann Institute in Israel. He conducted research at Stanford, Harvard, CERN, the Weizmann Institute and CEA-Saclay. In 1989 he founded ArSciMed (art, science, media) in Paris, a company he has directed since.

* Tea & coffee will be served at 15.30 hrs

Thursday 10 March

MICROPROCESSOR USER'S MEETING

10.00-12.00 hrs – CN Auditorium

bldg 31/3-005

1. Real Reality : ALEPH's streamlined OS-9 environment
by Tony Wildish
2. 683XX Microcontrollers : The way forward with OS-9
by Pierre Charrue
3. FasTrak : OS-9 Cross-Software Development with a 'turbo'
by Martin Merkel
4. Mouthwatering New OS-9 products
by Douglas Kemp
5. Lynx-OS : A Status Report
by Julian Blake

Thursday 10 March

at 14.00 hrs – TH Conference Room

Black holes, Hawking radiation and quantum gravity

by Erik VERLINDE / CERN

A careful analysis of the black hole formation and evaporation process will be presented. It is shown that the Hawking radiation emitted by black holes is sensitive to Planckian physics near the black hole horizon. The original derivation of Hawking radiation is re-examined and extended by including gravitational interactions between the infalling matter and the outgoing radiation. It is found that the gravitational back reaction leads to exponentially growing quantum commutators that effectively exclude simultaneous measurements of the Hawking radiation and the quantum state of the infalling matter. This phenomena, first suggested by 't Hooft, is sometimes referred to as "black hole complementarity". It can be derived from basic physical principles, but it does not require (but it does allow for) the existence of a unitary S-matrix. Some issues concerning causality and locality in quantum gravity are also addressed.

Friday 11 March

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs TH Conference Room

D-D mixing in heavy quark effective field theory

by Thorsten OHL / T.H. Darmstadt

HQFT provides a systematic framework for the separation of short-and long-distance physics in D-D mixing. QCD corrections are shown to renormalize the short-distance physics only moderately. Arguments are given that the left-over long-distance contribution is much smaller than suggested by earlier estimates, thus making the D-D system a better probe for new physics.

Monday 14 March

PRESENTATION

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

Silicon Graphic Inc. CASE tools

by Mark HUGHES / Product marketing manager

Mark HUGHES, will present the SGI CASE tools based on the industry-standard XTM and OSF/MotifTM user interface platform. CASEVision/WorkShop, Silicon Graphic's new release of CASE tools, has been designed to help programmers break through the software complexity barrier. By coupling a new generation of visually-oriented software development tools with powerful but low-cost color graphics workstations, Silicon Graphics has redefined the state of the art in modern software development environments. CASEVision/WorkShop support software development in C, Fortran and C++ on Silicon Graphics workstations. The open architecture of CodeVision is based on the industry-standard XTM and OSF/MotifTM user interface platform. CASEVision/WorkShop is a set of four integrated programming tools that enable the individual programmer to :

- To analyse code structure.
- To debug compiled code.
- To tune run-time performance.
- To analyse code for test coverage.

Together the WorkShop tools provide a multi-view, interactive programming environment for developing software in C, C++, or Fortran.

The four main WorkShop components are:-

- The debugger cvd.
- The static analyzer cvstatic.
- The performance analyser cvspeek.
- The coverage analyser, cvcov (also known as Tester).

In addition, WorkShop also provides a context-sensitive on-line help system, an annotated source code viewer, and a build analyser. As part of the SGI CASEVision offering, CASEVision/WorkShop Pro MPF is a programming tool that enables the individual programmer to understand the structure and parallelization of his or her FORTRAN program.

Tuesday 15 March

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium

The steady vanishing of solar neutrino problem(s)

by Douglas R.O. MORRISON / CERN

Wednesday 16 March

PRESENTATION

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

VMEbus Interface Products

by Cypress Semiconductors and Basix

Thursday 17 March

TECHNICAL PRESENTATION

at 09.00 hrs – bldg 73/2-027

Product presentation "Ultra High Vacuum Components"

by N. RIEGER / Sales Engineer, Dr TOGA / Engineering Manager UHV-Components, Mr KOYAMA / Product Manager, Metallized Products / Kyocera Fineceramics GmbH (D/J)

Language : English

Information : M. Diraison / FI-A / 4585

Jeudi 17 mars

SEMINAIRE MT DE BASE

à 09.00 h – Amphithéâtre AT
bât. 30, 7^e étage

Collimateurs / Pick-up LHC

par R. JUNG & L. VOS / CERN-SL

Thursday 17 March

PRESENTATION

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

PowerPC in VMEbus and other products

by Radstone Technology (UK)

EDUCATION SERVICES EDUCATIFS

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LECTURE SERIES FOR POSTGRADUATE STUDENTS

7, 8, 9, 10 & 11 March

11.00 to 12.00 hrs – Auditorium

Introduction to particle accelerators (Lectures 6 to 10)

by E.J.N. WILSON / CERN-AC

6. Linear accelerators (by Guest Speaker : M. Weiss in person)
7. Magnets multipoles and resonances
8. RF bunches and buckets
9. Electron dynamics
10. Instabilities

This is a *wide-screen video retransmission* of a previous popular series.