

SEMINARS SEMINAIRES

Wednesday 6 October

PRESENTATION

10.00 hrs – CN Auditorium
bldg 31/3-005

SQLASSIST – ad hoc query building,
report writing and data conversion for
enterprise wide data access

Providing widespread data access in relational database environments is key to SQLASSIST from SOFTWARE INTERFACES. SQLASSIST eliminates the database access problem by giving ALL users the power to retrieve and report information from their RDBMS. The multi GUI support of SQLASSIST offers every user an easy way to build SQL-Queries, view the results, build management style reports (including matrix reports) or convert data into their favourite analysis tool including the SAS System and RS/1. With the powerful Rules Facility provided by Software Interfaces users will be able to build error free queries which are syntactically and if possible semantically correct (if the datamodel and access grants allow this). The presentation and demonstration will be given by Rahul Mehta from SOFTWARE INTERFACES U.S.A.

Information: Axel Daneels / AT / 2581

Wednesday 6 October

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

**The exact renormalization group
and approximate solutions**

by Tim R. MORRIS / CERN

We investigate the structure of Polchinski's formulation of the flow equations for the continuum Wilson effective action. Reinterpretations in terms of I.R. cut-off Green's functions are given. A promising non-perturbative approximation scheme is derived by carefully taking the sharp cut-off limit and expanding in "irrelevancy" of operators. We illustrate with two simple models of four-dimensional ϕ^4 theory the cactus approximation, and a model incorporating the first irrelevant correction to the renormalized coupling. The qualitative and quantitative behaviour give confidence in a fuller use of this method for obtaining accurate results.

Wednesday 6 October

ISOLDE SEMINAR

at 16.00 hrs – TH Conference Room

Nuclei with a neutron stratosphere

by P.G. HANSEN / Institute of Physics and
Astronomy, Aarhus University

Extremely neutron-rich light nuclei such as lithium-11 and beryllium-11 are surrounded by a neutron cloud of "halo",

which extends far beyond the dense nuclear core. This very unusual feature is highlighted in dissociation reactions in which the neutrons are separated from the core, either by the electric field of a target nucleus acting on the charged core, or by diffraction of the neutron(s) around the obstacle presented by the target. We have studied such processes with fast radioactive beams produced by heavy-ion accelerators at GANIL (Caen) and at the GSI (Darmstadt). A proton halo is also expected to be possible, but only in exceptional cases. Indications of this phenomenon have been found in an experiment at the new ISOLDE.

Thursday 7 October

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

Challenges for superstring cosmology

by R. BRUSTEIN / CERN

We consider whether current notions about superstring theory below the Planck scale are compatible with cosmology. We find that the anticipated form for the dilaton interaction creates a serious roadblock for inflation and makes it unlikely that the universe ever reaches a state with zero cosmological constant and time-independent gravitational constant.

Thursday 7 October

CERN COLLOQUIUM

at 16.30 hrs – Auditorium*

A new step in determining the neutrino mass

by E. W. OTTEN / Universität Mainz

A precise measurement of the beta spectrum of tritium near the endpoint provides a sensitive and direct access to the rest mass of the electron anti neutrino. The quality of such measurements depends decisively on:

- optimizing luminosity and resolution of the spectrometer,
- minimizing energy losses in the tritium source,
- reliable calculation of the final electronic states of the daughter molecule.

We have built an electro-static filter spectrometer with adiabatic guiding of the beta-particles along a magnetic field which decreases by a factor of 3000 between source and the point of passing the maximum of the filter potential. Thus the full forward solid angle of emission is analyzed with filter sharpness of 3000. The source is T_2 frozen onto a Li-He-cooled substrate. The present result is

$$m_{\nu}^2 = \left(-39 \pm 34_{\text{stat}} \pm 15_{\text{syst}} \right) \text{eV}^2 / c^4,$$

from which an upper limit of $m_{\nu} < 7.2 \text{ eV}/c^2$ may be derived. The high resolution and luminosity allow for the first time to separate transitions to the molecular ground state from the inelastic part of the spectrum. This analysis infers that the negative m_{ν}^2 -value from which most recent experiments suffer is most probably due to components in the final states spectrum not considered so far by theory.

* Tea & coffee will be served at 16.00 hrs.

Friday 8 October

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room

**Do present LEP data provide evidence for
electroweak corrections?**

by V.A. NOVIKOV / ITEP, Moscow & CERN

The Born approximation, based on $\bar{\alpha} = \alpha(m_Z)$ instead of α , reproduces all electroweak precision measurements within their (1 σ) accuracy. The low upper limits for the genuinely electroweak corrections constitute one of the major achievements of LEP. The astonishing smallness of these corrections results from the cancellation of a large positive contribution from the heavy top quark and large negative contributions from all other virtual particles. It is precisely the non-observation of electroweak radiative corrections that places stringent upper and lower limits on the top mass.

Monday 11 October*

COMPUTING SEMINAR

at 14.00 hrs – CN Auditorium

bldg 31/3-005

EPICS

by Bob DALESIO / Los Alamos National
Laboratory

EPICS (Experimental Physics and Industrial Control System) was conceived at Los Alamos and has since been developed at Argonne and other institutes in the USA. It is now being used, essentially for the control of high-energy physics installations, at some twenty sites in the USA (SSC, CEBAF, ALS, Brookhaven, etc.) and also in Europe (DESY). The talk will describe the structure and facilities provided for the implementation of a control system. Comparisons will be made with those available commercially. The product though mature is still evolving and its future directions will be presented.

* Please note unusual day and time

Tuesday 12 October

PRESENTATION

at 10.00 hrs – CN Auditorium

bldg 31/3-005

ALSYS Software Development Tools

Concepts of Ada (incl new OOP, real-time and distributed systems functionalities)

Alsys' native and cross products' offering (running on DOS, HP-UX, Solaris, LynxOS, VMS,...)

Founded in 1980 by the designers of Ada language, Alsys was acquired by Thomson-CSF and established as an independent subsidiary. With a revenue of \$43 million in 1992, Alsys is one of the world's "TOP 100" software companies. Leading developer and supplier of software engineering tools, Alsys provides products, consulting, training and support to software developers worldwide. Alsys'

WorldCASE products include complete Ada development environments for virtually all host and embedded platforms, User Interface Management Systems (UIMS) for the development of User Graphical Interfaces (GUI), and integrated Project Support Environments (IPSE).

Tuesday 12 October

MAURICE SPIGHEL FEST

at 15.45 hrs* – PPE Conference Room

bldg 892/1-D20

Maurice Spighel's 68th birthday

On this occasion we have pleasure in inviting Maurice Spighel's friends and colleagues to a celebration.

Before CERN

J. Laberrigue (Paris VI)

CERN, until the Bi-Spectrometer

J.P. Stroot

(Bruxelles & PPE Div.)

CERN, Strong Field in Crystal

D. Sillou (Lapp-Annecy)

Information : M. Poulet, 6513 - 6464

• A drink will be served at 17.00 hrs

Tuesday 12 October

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium

**Tests of QCD from $b\bar{b}$ production and other
hadronic processes at the CERN $p\bar{p}$ collider**

by A. GEISER / CERN-PPE

Mercredi 13 Octobre

PRESENTATION

de 09.00 à 12.00 h – Amphithéâtre SL

bât. 864/1^{er} étage

Circuits programmables Altera

par N. TOON / Altera U.K.

Renseignements : J.M. Sainson/CN/7561 ou

S. Broebecke/CN/8693

Wednesday 13 October

PS SEMINAR

at 11.00 hrs – PS Auditorium

**Modernization of the Fermilab accelerator control
system**

by Peter LUCAS / Head of the Fermilab
Controls Group

Thursday 14 October

CERN COLLOQUIUM

at 16.30 hrs – Auditorium

Cosmic rays and cosmology

by Arnold WOLFENDALE / University of Durham