

SEMINARS

SEMINAIRES

Monday 17 October*

COMPUTING SEMINAR

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

Reconstruction of a 50 Terabyte Data Set at Fermilab E791

by Don SUMMERS / University of Mississippi

During the 1991-1992 fixed target run at Fermilab the E791 experiment recorded 50 Terabytes of data on 24000 8mm tapes. Four UNIX/RISC farms totaling 10000 MIPS were built at sites in Mississippi, Kansas, Fermilab, and Rio de Janeiro. The reconstruction of the E791 data set has just been completed and has yielded 200,000 charm particles. Methods employed to accomplish this task will be discussed with an emphasis on experiences at the Mississippi farm where 1/3 of the reconstruction took place.

Organiser : D. Kemp / CN

* *Please note unusual day*

Monday 17 October

PPE SEMINAR

at 16.30 hrs – Auditorium

OPAL measurements of B hadron lifetimes

by Tara SHEARS / Cambridge University

The lifetimes of the individual B hadron species have been measured using data taken by the OPAL detector at LEP. After a brief introduction to the subject, the analyses developed to extract the $B_{u,d}^0$, B^+ and B_s^0 mesons and b baryon lifetimes will be described. These hadrons are identified by their semileptonic decay to charm hadrons. Their reconstructed decay lengths are combined with an estimate of the B hadron boost to determine the proper time of each event, which is then fitted to extract an average lifetime. The most recent results, based on data taken until the end of 1993, will be presented.

Thursday 20 October

TECHNICAL PRESENTATION

09.15-12.00 hrs – bldg 31/3-005 : talks

14.00-16.00 hrs – bldg 73/2-027 : questions & discussions

THOMSON-CSF offer for high energy physics

09.15-10.00 Thomson-CSF/DAS/DIMCO: J.P. Brault / Nuclear and defence affairs, A. Chappat / Regional director

- presentation of DAS/DIMCO activities

- ability to cooperate in nuclear and experimental environment (hardened cabling, work in constraining environment)

10.00-11.00 Thomson-CSF/RGS/DEN: G. Eumurian / Head of special instrumentation department

- presentation of special instrumentation department

- picosecond chronometers
- TASC-20, a single shot 1ts/sec photonic analyser
- PAWS 4000 a 320kW arbitrary waveform generator
- 100kHz-1GHz active electromagneticsensors
- very broad analog optical links

- an analog multiplex architecture for ATLAS

- possible architectures

- some experimental results

11.00-12.00 Thomson-CSF semiconducteurs spécifiques : J. Redolfi / Analog and mixed signal ASIC marketing support, J.P. Lamarcq / Area manager

- presentation of the specific semiconductor activity (microwave components, microprocessors, image sensors, laser diodes & optoelectronic modules, radiation hardened devices, ASIC)

- the ASIC offer (CMOS digital, mixed-signal, analog arrays, smart power, SOI technologies)

- illustration of SOI rad-hard technology performances

14.00-16.00 hrs – bldg 73/2-027

Question and discussions

Languages : English, French

Information : M. Diraison / FI-A / 4585

Friday 21 October

Vendredi 21 octobre

CERN PRESENTATION

à 10.00 hrs – Amphithéâtre CN (en **Français**),

at 14.00 hrs – CN Auditorium (in **English**)

bldg 31, 3rd floor

Présentation des caractéristiques de la nouvelle version 2.0EDH (Electronic Document Handling)

Presentation of the features of the new 2.0 version for Mac, MsWindows and X-Windows

par/by Jurgen DE JONGHE & Olivier DELERM / CERN-AS

Nous présenterons les nouvelles fonctionnalités de EDH 2.0 : nouvelle architecture et transition de la version 1.3.3 à 2.0, nouvelle version de la DAI, TID et JOB MT, et nouveau formulaire de Demande d'Expédition.

We will present the new functionality of EDH 2.0, the new architecture and transition from 1.3.3 version to 2.0, the new versions of the DAI, TID and MT JOB documents, and the new Shipping Request document.

Monday 24 October

DETECTOR SEMINAR

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

The ISPA-tube : a new position-sensitive photon detector based on an Imaging Silicon Pixel Array

by Thierry GYS / CERN-PPE

The ISPA-tube consists of a vacuum-sealed cylinder of 45 mm length and 35 mm diameter, which encloses a 18 mm diameter photocathode confronted at 30 mm distance by a silicon chip (8 mm × 4.8 mm). This chip, developed by the RD19 Collaboration, contains 1024 pixels of 75 microns × 500 microns edges, bump-bonded to their individual front-end electronics. A 20 kV potential difference accelerates the photoelectrons towards this anode chip. Track images, emitted from a fibre tracker (composed of 60 microns diameter scintillating fibres) which was exposed to a 120 GeV/c negative pion beam, were readout within 10 microseconds with this newly developed ISPA-tube. The Gaussians of the track residuals indicate 42 microns standard deviation. The centre-of-gravity precision amounts to 15 microns and the angular precision of the 7 mm long tracks peaks at 8 mrad. The operation performances of

this ISPA-tube and future developments like enlarged anode areas and possible improvements of its electronics architecture will also be discussed.

Tuesday 25 October

CERN COLLOQUIUM

at 16.30 hrs - Auditorium

Binary pulsars and relativistic gravity

by J.H. TAYLOR / Nobel Laureat for Physics 1993,
Princeton University

Wednesday 26 October

DETECTOR R & D COMMITTEE

Open session

at 09.00 hrs – Council Chamber

1. RD-8 Status Report: Development of GaAs detectors for physics at the LHC (RWTH Aachen–ANSTO Sydney–Bologna–Florence–Freiburg–Glasgow–Lancaster–IHEP Protvino–RAL–Sheffield; DRDC 94-32; K.M. Smith).
2. RD-20 Status Report: Development of high resolution silicon strip detectors for experiments at high luminosity at the LHC (NCSR Demokritos–Bonn–Comenius–CERN–INP & IPNT Cracow–MPI Heidelberg–Liverpool–Brunel–Imperial

College–CPP Marseille–Oslo–SINTEF Oslo–Padova–Rome Sanita–RAL–CRN Strasbourg–Turino–Uppsala–HEPHY Vienna–PSI Würenlingen; DRDC 94-39; G. Hall).

3. RD-23 Status Report: Optoelectronic analogue signal transfer for LHC detectors (CERN–Birmingham–EPFL Lausanne–Lecce–Florence–MTI/MASPEC Parma & INFN Milano–GEC Marconi–Imperial College–Lund–Siegen–RAL; DRDC 94-38; G. Stefanini).
4. RD-35 Status Report: A silicon hadron calorimeter module operated in a strong magnetic field with VLSI readout for LHC (CERN–JINR Dubna–Florence–Milan–Rome; DRDC 94-40; S. Sergueev).

Closed session

following the Open Session continuing on

Thursday 27 October at 09.00 hrs, 6th floor Conference Room

Wednesday 26 October

COMPUTING SEMINAR

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

Literate programming systems of structured design and documentation

by Marcus SPEH / DESY

Organiser : D. Kemp / CN

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LECTURE SERIES

17, 18, 19, 20 & 21 October

11.00-12.00 hrs – Auditorium

Electro-weak interactions

by P. LANGACKER / University of Pennsylvania, USA

The theory and phenomenology of electroweak interactions and their role in establishing the standard model and searching for new physics will be described. Topics will include the structure of the standard model, spontaneous symmetry breaking, renormalization and radiative corrections, QED, the weak charged current, flavor changing effects, the weak neutral current, and Z-pole physics. The implications of these for searches for new physics, including grand unification, supersymmetry, compositeness, dynamical symmetry breaking, extended gauge structure, and exotic particles will be developed.

24, 25, 26, 27 & 28 October

11.00-12.00 hrs – Auditorium

Quantum chromo dynamics

by G. MARTINELLI / University of Roma, Italy & CERN-TH

ENSEIGNEMENT GÉNÉRAL

Tél. 5811

Jeu di 27 octobre

à 13.00 h – Amphithéâtre

Science pour tous

par Rafel CARRERAS

Attention : pas de séance le 20 octobre.