

mainframes and supercomputers. Today they claim to have the fastest systems available, and they are working on future technologies like Ga-As or Josephson junctions to further increase their strength. Up till now however, the software and communication facilities have not been their strongest side. Will the standardisation of system software and communications infrastructure, as well as the globalisation of the European market, allow them to rapidly move in as a major supplier of our high-end computing equipment? Sverre will mainly describe the latest systems offered by NEC, Fujitsu and Hitachi, but will also give a brief overview of their operating systems, application software, and current install base. Future technologies that he saw will also be reviewed.

Thursday 18 October

ISOLDE SEMINAR

at 16.30 hrs – Theory Conference Room

Algebraic models of nuclear structure

by Dennis BONATSOS / NCSR Democritos, Greece and Univ. of Tübingen, Germany

Algebraic nuclear structure models (of the interacting boson model type) will be reviewed and their microscopic justification will be addressed. In addition, the newly discovered application of quantum algebras to description of nuclear and molecular spectra will be discussed.

Thursday 18 October

CERN COLLOQUIUM

at 16.30 hrs – Auditorium*

The Soviet-American Gallium Experiment

by Thomas J. BOWLES / Los Alamos National Laboratory

The Soviet-American Gallium solar neutrino Experiment (SAGE) provides a measurement of the flux of p-p solar neutrinos, which is the dominant energy producing mechanism in the sun. This

measurement should allow one to determine whether the source of the 'solar neutrino problem' is due to astrophysics or particle physics. The initial data from SAGE indicates that the flux is below the Standard Solar Model prediction, and is in fact consistent with zero. If this initial finding is borne out with more data, it would indicate that new particle physics is the solution to the 'solar neutrino problem'.

* Tea & coffee will be served at 16.00 hrs.

Friday 19 October

MEETING ON

PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room

Inelastic diffraction at collider energy

by Luca CANESCHI / CERN and Università della Calabria

Using considerations based on s-channel unitarity, I predict the energy dependence of inelastic diffraction. I also predict a structure in the angular dependence that can be hidden only by substantial helicity flip.

Tuesday 23 October

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium

Hadronic final-states and tests of QCD with the OPAL detector at LEP

by J. William GARY / University of Heidelberg

Wednesday 24 October

PRESENTATION

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

Taking Advantage of X-Window at CERN

by Andy HOLL / NCD Europe, UK and
Georges BOLANOS / NCD Headquarters, USA

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LECTURES FOR POSTGRADUATE STUDENTS

10.30 to 12.00 hrs – Auditorium

Quantum field theory

by B. DE WIT / Institute for Theoretical Physics, Utrecht



Séminaires Techniques Technical Seminars

LaTeX FOR BEGINNERS

1st session : November 5 to 9 - 9 h. to 12 h.

2nd session : November 12 to 16 - 9 h. to 12 h.

This course is aimed at technical, professional, scientific and academic staff, who want to get acquainted with the LaTeX textprocessor, which is available on all computer platforms at CERN (PC, MacIntosh, Unix workstations, VAXVMS and VMCMS). It is the recommended textprocessing system for the preparation of papers.

No previous knowledge of a text processor is required, although users of CERNPAPER and SGML will recognize many similarities between these systems and LaTeX.

Those who would like to apply for one of these two sessions should fill in the application form which has been published in the Technical Training brochure. Extra copies of this brochure may be obtained from the Divisional Secretariats and the Technical Training Secretariat.

A financial contribution of CHF 200,- will be charged to the divisions.

Thursday 18 October

at 10.30 hrs – Technical Training Auditorium

Adapting finite element software for the 90s

by D. F. OSTERGAARD / Swanson Analysis Systems (USA)

The proliferation of finite element usage for design and analysis coupled with tremendous increases in price/performance of computer hardware systems has put demands on commercial software packages to meet increased user expectations. The seminar will focus on user requirements, hardware advances and finite element trends for the 1990s. The talk will conclude with how commercial finite element software developers are responding to these demands from industry.

Potential topics to be covered in the presentation include :

- Man-machine interfacing
- CAD interfacing

PSPICE

6 et 7 novembre 1990

Ce séminaire est destiné aux électroniciens qui souhaitent utiliser ce logiciel pour des modélisations et simulations analogiques. Une bonne connaissance en électronique analogique ainsi que la pratique d'un PC sous MS-DOS sont nécessaires. Seront traités les points suivants :

- Généralités sur la simulation. Modélisation.
- Description des deux logiciels SPICE2 et PSPICE. Leurs fonctionnalités, langage de description de circuits et primitives disponibles.
- Point de fonctionnement. Analyse fréquentielle. Analyse temporelle.
- Equations des composants de base. Paramètres SPICE. Relation entre modèle et point de fonctionnement.
- Traitement du bruit, des variations en température, de la sensibilité. Analyse statistique de Monte Carlo. Etude de la distorsion. Application de l'analyse de Fourier.
- Etudes de convergence (conditions initiales, options de simulation).
- Définitions de sous-circuits et leur mise en bibliothèque. Macromodélisation de composants.
- Simulation fonctionnelle par modélisation comportementale, fonctions linéaires et non-linéaires
- Autres modules de PSPICE tels que Digital Simulation et Device Equation.

Des travaux pratiques illustreront ces chapitres.

Une contribution financière de CHF 400,- sera demandée aux divisions.

Les personnes qui désirent s'inscrire à ce séminaire sont priées d'utiliser le bulletin d'inscription figurant dans la brochure de l'Enseignement Technique. Des brochures supplémentaires sont disponibles auprès des Secrétariats de division et de l'Enseignement Technique

- Data transfer across systems
- Hardware price / performance trends
- Error estimation
- Adaptive mesh refinement
- Boundary elements
- Software development
- Quality Assurance issues

Dale Ostergaard is Supervisor at the Quality Assurance Department of Swanson Analysis Systems Inc., the company that designed and develops the finite-element package ANSYS. He is responsible for coordinating development of ANSYS magnetics and coupled-field capabilities and for quality assurance testing of the programme.

As the number of participants is limited, the persons who want to attend this seminar have to apply to the Technical Training Secretariat, preferably by e-mail (eductech@cernvm).