

SEMINARS SEMINAIRES

Monday 2 December

PROTON SYNCHROTRON AND
SYNCHRO-CYCLOTRON COMMITTEE

Open session

at 08.30 hrs – Council Chamber

PLEASE NOTE UNUSUAL TIME

1. *Proposal : Measurement of spin-dependence in proton-antiproton interaction at low momenta (Heidelberg - Houston - Karlsruhe - Madison - Mainz - Marburg - Munich - Rutgers Univ.; PSCC/85-80/P92; 85-81/S92; E. Steffens).*
2. *Proposal : Study of the spin structure of the neutron-antineutron channel at LEAR (Cagliari - Geneva - Karlsruhe - Torino - Trieste; PSCC/85-85/P93; 85-86/S93; F. Bradamante).*
3. *Status Report on experiment PS 174 : Precision survey of X-rays from proton-antiproton (antiproton-deuteron) atoms using the initial LEAR beam (Amsterdam - Birmingham - RAL - Williamsburg; J.D. Davies).*
4. *Status report on experiment PS175 : Measurement of the antiprotonic Lyman- and Balmer X-rays of antiproton-H and antiproton-D atoms at very low target pressures (Karlsruhe; L.M. Simons).*
5. *Status report on experiment PS178 : Study of antineutron production at LEAR (Cagliari - Padova - Torino; T. Bressani).*
6. *Addendum to proposal P23 (experiment PS178) : Measurement of the antiproton on carbon 13 to antineutron plus boron 13 reaction (Cagliari - Indiana - Padova - Tel Aviv - Torino; PSCC/85-53/P23 Add. 2; A.I. Yavin).*
7. *Status report on experiment PS 182 : Investigations on Baryonium and other rare proton-antiproton annihilation modes using high-resolution neutral pion spectrometers (Basel - Stockholm - Thessaloniki; L. Tauscher).*
8. *Status reports from the (SC and PS) Co-ordinators.*

Closed session

at 11.30 hrs – 6th floor Conference Room,
Administration Building.

Lundi 2 décembre

PRESENTATION TECHNIQUE

de 10.00 hrs à 16.00 hrs

Bât. 30, 7^{ème} étage, Amphithéâtre LEP

REPROX MACHINES DE BUREAU SA (CH), représentant Panasonic (J), propose en démonstration : Panaboard, le tableau noir électronique – E²S, le système d'édition (nouveau monde) – copieurs FP-2625, 4520, 1300 et 1000.

Langue : français.

Renseignements : M. Diraison / FI / 4585.

Monday 2 December

EF SEMINAR

at 11.00 hrs – EF Conference Room
Bldg 13, 2-005

The UA2 upgrading

by O. GILDEMEISTER / CERN

The UA1 and UA2 experiments at the SPS-proton-antiproton-collider have led – among other interesting results – to the discovery of the weak intermediate bosons $W^\pm$ and Z^0 . To open new domains of physics the event statistics have to be largely enhanced. From 1987 onwards the collider luminosity is expected to be increased by a factor of about 10 with the help of the new antiproton collector ACOL. To make best use of it, the UA2 essentially needs improved background rejection for rare events. By keeping the basic philosophy of the UA2 design unchanged, the main aims of the upgrade project are improvements of the electron identification and of the measurements of missing transverse energy for hard collisions. New end-cap calorimeters with tracking and preshower chambers in front are being constructed. A new set of cylindrical detectors around the vertex region will consist of a 'jet vertex detector' – drift chamber, a silicon counter array, a pair of transition radiation detectors, and a scintillation fiber detector.

Lundi 2 décembre

PRESENTATION

à 14.00 hrs – Salle de Conf. EF, Bât. 13, 2-005

Mr. Joaquin KEMPIN, General Manager de MICROSOFT Europe présentera les produits :

EXCEL

FORTRAN 77 (version 2.1)

BASIC (version 2.1)

à 16.00 hrs, questions et réponses.

Pour information : F. SALDANA / EP / 6256 ou 13-7030.

(Veuillez noter que la présentation prévue antérieurement à 09.00 hrs a été supprimée.)

Monday 2 December

PRESENTATION

at 14.00 hrs – DD Auditorium
Bldg 31, 3-005

Artificial Intelligence at Digital

by Bill KANIA / DEC, Hudson, Massachusetts

The trade press has given a wide exposure to XCON(R1) and XSEL which are among the first expert systems routinely used in a factory. Several expert systems are in use or in development at Digital. This seminar will present an overview of the work done and the experience gained at Digital's AI Technology Center in Hudson. No specific knowledge of AI is required for this presentation which will last about 45 minutes. Bill Kania is AI Marketing Manager for Digital Equipment.

Monday 2 December

CAS ACCELERATOR SEMINAR

INAUGURAL LECTURE IN THE JOHN ADAMS MEMORIAL LECTURE SERIES

at 15.00 hrs – Auditorium

John Adams and his times

by Professor E. AMALDI / Dipartimento di Fisica G. Marconi, Università La Sapienza, Rome

The John Adams' Memorial Lecture will be an annual event which in future years will provide young and promising accelerator engineers and physicists with an opportunity to expose their work in the accelerator field.

The inaugural lecture will put the many very important contributions of John Adams into perspective, not only with respect to CERN, but also with respect to the development of high energy physics in the world.

Monday 2 December

EP SEMINAR

at 17.00 hrs – Auditorium

PLEASE NOTE UNUSUAL TIME

Hadron spectroscopy – From upsiion to pi-zero
by S. COOPER

Chi-b mass splittings test the Lorenz character of the confining part of the heavy quark potential. The average of all four experiments now indicates scalar confinement, in agreement with the consensus reached from theoretical considerations. The hadronic widths of the chi-b states agree with QCD calculations much better than in the chi-c case, although difficulties in the calculation remain. The spin-parity of the E(1420) has a history of conflict. The KKpi decay has yielded both $JPC = 0^{-+}$ and 1^{++} , as has now the $\pi p \rightarrow \pi + E p$. Two distinct mesons, or an error in one set of experiments, are possible explanations. Two photon measurements of the eta width are in significant disagreement with the Primakoff effect result.

Tuesday 3 December

IBM PC USER FORUM

at 09.30 hrs – EF Conference Room
Bldg 13, 2-005

Due to popular demand at the first IBM-PC Forum, the second Forum will have as special topic 'Networking in CERN'. The aim is to become more educated in networking possibilities and to develop a strategy for the future networking of IBM PCs at CERN.

1. Introduction by Ian WILLERS
2. The following speakers will give a 10 minute presentation on one aspect of networking at CERN:
 - a. Overview of CERN Networking, by Brian CARPENTER
 - b. Ethernet, by Mike GERARD
 - c. PC-Networks, by Charles CURRAN
 - d. Token-Ring, by Jacques ALTABER.
3. Open question and answer session on any IBM-PC related items.

Mardi 3 décembre

PRESENTATION TECHNIQUE

de 09.30 hrs à 12.00 hrs et de 14.00 hrs à 16.00 hrs

Bât. 73, Salle 2-027

A.T.R. Agence Technique Romande, représentant E. Haefely et Co. SA (Bâle) et HVTS High Voltage Test Systems ASEA E. Haefely, propose des informations sur les thèmes suivants :

– 09.30 : *Systèmes d'essais pour CEM/EMP : générateurs d'impulsions CEM, de tension de choc, d'impulsions électromagnétiques nucléaires, de courant de choc, de perturbations HF, d'ondes oscillantes amorties – simulateurs de transitoires répétitives, d'électricité statique, de foudre;*

– 14.00/16.00 : **1. Unités destinées aux réseaux de haute tension :** transformateurs de mesure, diviseurs capacitifs, filtres HF, réactances, condensateurs de puissance de filtrage, de couplage, traversée pour toute application;

2. Installations de contrôle dans le domaine de la technique de l'énergie pour transformateurs de puissance, machines tournantes, câbles condensateurs, isolateurs, sectionneurs, parafoudre et varistance;

3. Installations pour le génie atomique : diverses applications spécifiques suivant cahiers des charges, telle que injecteurs à neutrons, etc.

Langues : allemand, anglais et français.

Renseignements : M. Diraison / FI / 4585.

Mardi 3 décembre

PRESENTATION TECHNIQUE

de 09.30 hrs à 12.00 hrs et de 14.00 hrs à 17.00 hrs

Bât. 31, Salle 3-005, Amphithéâtre DD

ADCOMP AG (CH) et PCS, Peripheric Computer Systeme GmbH (D) propose un séminaire sur les ordinateurs CADMUS, 32 bits, utilisant le 68010 et 68020 de Motorola, le logiciel de base MUNIX (UNIX System V), les logiciels d'application CAD/CAM, CAP (Computer Aided Publishing), commercial.

– 09.30/10.15 : *présentation des sociétés ADCOMP et PCS GmbH*

– 10.30/12.00 : *présentation du matériel et logiciel*

– 14.00/15.00 : *présentation du logiciel WPS**

– 15.15/17.00 : *démonstration de WPS*

**WPS = Workstation Publishing Software, logiciel intégrant un traitement de textes et d'images de haut niveau, permettant la création interactive de textes et de graphiques réalisés sur un écran à haute résolution (Bit map terminal) ainsi que l'impression au moyen d'une imprimante laser (LBP-CX laser beam printer). Ce logiciel utilise la technique dite «Window».*

Langues : anglais, français.

Renseignements : M. Diraison / FI / 4585.

Tuesday 3 December

PRESENTATION

at 14.00 hrs – PS Conference Room
Bldg 6, 2-004

A distributed expert system using VAX LISP and A.R.T.

by Mike STOCK / Composition System Inc., NY

In the US, several companies are building expert systems

into their products. Mike Stock (VP Engineering at CSI) is designing a product handling all pre-press tasks for the newspaper industry. It consists of 10 expert systems distributed over several VAXes and cooperating in real-time. The speaker will describe the problem analysis and the considerations for systems that have to satisfy production and time constraints. The product itself is not presented. No specific knowledge of Artificial Intelligence is required for this presentation which will be of about 45 minutes duration.

Mercredi 4 décembre

PRESENTATION TECHNIQUE

de 09.30 hrs à 12.00 hrs et de 14.00 hrs à 16.00 hrs
Parking Entrée marchandises, Bât. 73 :
DEMONSTRATION

de 09.30 hrs à 12.00 hrs seulement
Salle 2-027, Bât. 73 :

PROJECTION (allemand et français)

STÄUBLI AG (CH/F) propose une séance d'information (15 minutes de projection audio-visuelle) sur les nouveautés de leur programme de fabrication : raccord rapides pour l'air comprimé, les liquides, les gaz et l'hydraulique – unités de traitement de l'air, accessoires associés – nouvelle gamme de multiraccords – manomètre et capteur de pression SD-1.

Langues : espagnol, français, italien.

Renseignements : M. Diraison / FI / 4585.

Mercredi 4 décembre

PRESENTATION

dès 09.00 hrs - Salle de Conférence EF
(Bât. 13-2-005)

Mr. G. DREXEL de FORCE COMPUTER GmbH (Munich) présentera :

- I. Force News
- II. 68020 (32 bits)
- III. Futurs produits.

dès 14.00 hrs:

Démonstration de:

- Logiciel
- Unix 5.1
- PDOs : - Fortran 77 - Pascal - c

Information : F. Saldana / EP / 6256 ou 13-7030.

Wednesday 4 December

THEORETICAL SEMINAR

at 14.00 hrs - Theory Conference Room

Quantum gravity and the problem of the cosmological constant

by J. ILIOPOULOS / ENS, Paris

Although no consistent theory for quantum gravity is known, people often try to apply the techniques developed for Yang-Mills theories to quantize general relativity. In this talk we will show some of the difficulties encountered in this approach, in particular the graviton propagator in a de Sitter background is found to be

divergent. We shall show that, as a consequence of this divergence, de Sitter space is not a solution of the equations of motion at the quantum level. When we start from a de Sitter space, quantum corrections change it into a flat Minkowski space.

Wednesday 4 December

LEP SEMINAR

at 14.30 hrs – LEP Auditorium
Bldg 30, 7th floor

Synchro-betatron resonances

by A. PIWINSKI / CERN-LEP

Three different effects which excite synchro-betatron resonances are discussed. These effects have limited the currents and the luminosity in existing storage rings and they can play an important role in future storage rings. The first one occurs if the dispersion in the cavities is not zero. The second one is caused by transverse fields which vary in longitudinal direction inside the bunch, and the third one is given by the beam-beam interaction at a crossing angle. Analytical investigations, computer simulations and measurements are shown.

Wednesday 4 December

CERN COMPUTER SEMINAR

at 16.00 hrs - Auditorium *

Expert systems : Artificial intelligence or artificial stupidity ?

by Martin KAY / Stanford Univ. and Xerox Parc, Palo Alto, California, USA

Expert systems have been hailed as the triumph which the field of Artificial Intelligence badly needed to sustain its credibility. These systems produce useful results on the basis of simple rules of thumb and very little intelligence. In other words, they embody the most salient characteristics of what is popularly referred to as 'stupidity'. In this talk, an attempt will be made to uphold the view that expert systems represent a trend that runs counter to everything that we normally think of as intelligent and their future will be correspondingly limited. It will be shown that the techniques embodied in expert systems, though new to Artificial Intelligence as a whole, have been common currency in computational linguistics for twenty years and that their limitations have been clearly demonstrated there.

* Tea and coffee at 15.30 hrs.

Martin KAY holds a degree in modern and mediaeval languages from Cambridge University. In the late fifties and sixties, he worked on machine translation there and at the Rand Corporation in California. Since then, he has been a Professor of Computer Science in the University of California, and is now a Principal Scientist in the Intelligent Systems Laboratory of the Xerox Palo Alto Research Center and a Consulting Professor in the Department of Linguistics of Stanford University. He is currently Invited Professor of the 3^{ème} Cycle Romand d'Informatique.

Jeudi 5 décembre

PRESENTATION TECHNIQUE

de 09.30 hrs à 16.00 hrs - Amphithéâtre LEP
Bât. 30, 7ème étage

WALTER RENTSCH SA (CH), représentant Canon (J/D) propose en exposition-démonstration la nouvelle gamme de photocopieurs et télécopieurs les plus rapides du groupe 3 Canon.

Caractéristiques principales : A3 à A6, réduction + agrandissement à l'échelle (utilisation d'un zoom de 35 % à 400 %), poudre de différentes couleurs, automatisme de l'exposition, copiage de livres, en mode double page, recto-verso A3 à A5 entièrement automatique, choix automatique des magasins papier, etc.

Langues : anglais, français, italien.

Renseignements : M. Diraison / FI / 4585.

Thursday 5 December

ISOLDE COMMITTEE

OPEN SESSION

at 13.00 hrs - PS Auditorium
Bldg 6, 2nd floor

Introductory remarks (C. Thibault).

Operation of ISOLDE-2 (H.-J. Kluge).

Status report on the construction of ISOLDE-3
W. Allardye).

4. Planning for experiments at IS-3 (H.-J. Kluge).
5. Proposal : Determination of Gamow-Teller transition strength from β decay properties of neutron deficient Cd isotopes (GSI-Warsaw, IP-20; J. Zylicz).
6. Proposal : For the investigation of nuclear structure near $N = Z = 34$. Mass of ^{68}Se . (CERN-Lyon-Strasbourg, IP-23; G. Walter).
7. Proposal : Decay study of isomeric states in neutron-deficient Bromine nuclei (IN2P3 Lyon - Strasbourg, IP-24; P. Marguier).
8. Proposal : Nuclear ground state properties in Strontium by fast-beam laser spectroscopy (CERN - Hamilton - Leuven - Mainz - Montreal; IP-21; F. Buchinger).
9. Proposal : To build a fast neutral beam-line for collinear laser spectroscopy at ISOLDE-3 (CERN-Orsay-Lyon-Mainz, IP-22; E.W. Otten).
10. Proposal : High resolution studies of valence electron structures in solids by conversion electron spectroscopy (Aarhus - CERN - Zurich, IP-19; J.W. Petersen).
11. Proposal : Hyperfine interaction studies of implanted radioactive probes (Berlin - Lisboa, IP-18; J.C. Soares).
12. Status report on IS01 (Target-ion source development, PSCC/82-54, PSCC/M121, H. Ravn).
13. Status report on IS01-10 (Preparation of radioactive targets for charged particle transfer nuclear spectroscopy, IP-12; R. Naumann).
14. Status report on IS01-08 (Nuclear structure of neutron-deficient rare earth nuclei from Gamow-Teller decay Spectroscopy, IP-13; P. Kleinheinz).

15. Status report on IS01-12 (Positron sources for atomic physics experiments, IP-11; G. Sinapius).
16. Status report on IS01-09 (Nuclear radiation detected optical pumping of on-line implanted atomic beam, IP-15; J. Bonn).
17. Any other business.

Closed Session : Friday 6 December

at 09.00 hrs - Main Building Conference Room
Bldg 60 - 6th floor

Thursday 5 December

CAS ACCELERATOR SEMINAR

at 14.30 hrs - Auditorium

**The Tevatron as a storage ring and
proton-antiproton collider**

by R. JOHNSON / FNAL

The Tevatron is the world's first superconducting accelerator and storage ring. A short history will be given of the recent commissioning which culminated in the first detection of 800 GeV proton-antiproton collisions. Difficulties and prospects will be discussed. Some machine experiments which are particularly relevant to future superconducting accelerators will be described.

Friday 6 December

THIRTY-EIGHTH PLENARY ECFA MEETING

at 09.00 hrs - Council Chamber

DRAFT AGENDA

1. Approval of the Draft Minutes of the Thirty-seventh Plenary ECFA Meeting
2. Approval of the Draft Agenda
3. Chairman's Report
4. The ECFA Advisory Panel on New Techniques for Particle Acceleration (G. Coignet)
5. The HEP Programme in the USA (J. Sandweiss Chairman-HEPAP)

- L U N C H -

6. Status of HERA and Letters of Intent (V. Soergel)
7. The HEP Computer Coordinating Committee (W. Hoogland)
8. Any Other Business

Lundi 9 décembre

EF SEMINAR

à 11.00 hrs - Salle de Conférence EF
Bât. 13, 2-005

Utilisation de VME dans le système d'acquisition de UA1

par M. DEMOULIN

De nouveaux domaines de physique vont être accessibles aux expériences proton-antiproton en 1987 avec l'utilisation d'ACOL. Le nombre d'événements à traiter en ligne doit être considérablement augmenté. Le système d'acquisition de données de l'expérience UA1 a donc été amélioré par l'intégration du standard VME et a permis de traiter à ce jour 10 millions d'événements. Une description de l'architecture du système sera donnée ainsi que celle des modules et du logiciel utilisés.

La conférence sera donnée en français.
The lecture will be given in French.

Monday 9 December

EP SEMINAR

at 16.30 hrs - Auditorium

New neutrino and antineutrino total cross-sections measurements from CDHS

by H. KEILWERTH / Heidelberg University

New results on total cross-sections for neutrino and anti-neutrino interactions in iron will be represented. The data were collected in 100, 160 and 200 GeV narrow band beams at the CERN SPS during the years 1982-1984. Two largely independent methods to determine the neutrino fluxes based on parent hadrons and decay muons were used. Integral cross-sections as well as the energy dependence of the cross-sections will be discussed.

Tuesday 10 December

CERN COLLOQUIUM

at 16.30 hrs - Auditorium

On the origin of high energy cosmic rays

by G. MORFILL / MPI, Institut für Extraterrestrische Physik, Garching

Wednesday 11 December

PS SEMINAR

at 11.00 hrs - PS Auditorium

Focusing in linacs

by P. LAPOSTOLLE

Wednesday 11 December

DD SEMINAR

at 16.00 hrs - DD Auditorium
Bldg 31, 3-005

Do physicists need software engineering ?

by F. JAMES

Thursday 12 December

SPECIAL PS SEMINAR

at 11.00 hrs - PS Auditorium

The LAMPF II proposal

by Arch THIESSEN / Los Alamos National Laboratory

Thursday 12 December

TECHNICAL PRESENTATION

at 14.00 hrs - DD Auditorium
Bldg 31, 3-005

Expert systems development using KEE

by F. GAGLIARDI

Thursday 12 December

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs - Auditorium

A precise determination of the electroweak mixing angle from semi-leptonic neutrino scattering.

by J. PANMAN / CERN

Friday 13 December

TECHNICAL PRESENTATION

at 14.00 hrs - DD Auditorium
Bldg 31, 3rd floor

The M.1 expert system shell

by D. BESSET, OFAC Geneva (Swiss representative of FRAMTEC/TEKKNOWLEDGE)

TRAINING AND

EDUCATION

ENSEIGNEMENT

Mardi 3 décembre

LES SCIENCES AUJOURD'HUI

à 20.00 h précises - Auditorium
(jusqu'à environ 22.00 h)

par R. CARRERAS

Rafel Carreras, responsable du programme d'Enseignement général au CERN, commentera et expliquera un choix d'articles parus récemment dans des revues scientifiques, et qui couvrent l'ensemble des sciences physiques et biologiques ainsi que certains aspects des relations science-société. Une attention particulière est portée au langage et aux notions utilisés afin que les explications et les commentaires soient accessibles aux personnes n'ayant pas de formation scientifique.

Entrée libre

(Please note that the lecture will be given in FRENCH)

Service des Relations Publiques
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ACADEMIC TRAINING

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1985 - 1986 ACADEMIC TRAINING PROGRAMME 2nd TERM

January 7, 8, 9, 10

11.00 to 12.00 hrs - Auditorium

'Kaluza-Klein theories and supergravity'
by H. NICOLAI / CERN

January 21, 22, 23, 24

11.00 to 12.00 hrs - Auditorium

'Beam impedances : causes, effects, cures'
by D. BOUSSARD, J. GAREYTE and H. HENKE / CERN

February 3, 4, 5, 6, 7

11.00 to 12.00 hrs - Auditorium

'Novel computer architectures'
(data flow, reduction, inference and logic machines)
by C. HALATSIS / University of Thessaloniki and CERN

February 18, 19, 20

11.00 to 12.00 hrs - Auditorium

'Heavy ions'
by L. VAN HOVE and W. WILLIS / CERN

March 4, 5, 6, 7

11.00 to 12.00 hrs - Auditorium

'Stochasticity, Arnold diffusion' or
'From KAM to Chaos'
by J.-P. ECKMANN / University of Geneva

March 10, 11, 12, 13

14.00 to 15.00 hrs - Auditorium

'Signal processing for radiation detectors'
by V. RADEKA / Brookhaven National Laboratory

March 19, 20, 21

11.00 to 12.00 hrs - Auditorium

'Software development tools'
by G. KELLNER / CERN

The abstract of the lectures, as well as any changes in the above details, will be published in the CERN Bulletin and by Notices before each series of lectures.

INFORMATIONS

GENERALES

GENERAL INFORMATION

Lundi 9 décembre

Amphithéâtre LEP
Bât. 30, 7ème étage

Projection par le Service de Prévention d'Incendie (Neuchâtel), avec commentaires, de trois films :

- Incendio (Sao Paulo II) (français)
- Saut de feu (français)
- Lagerung mit Sprinklerschutz (allemand)

PUBLICATION DU BULLETIN DE FIN D'ANNEE

La dernière édition (no. 51/85 ET 1-2/86) du Bulletin hebdomadaire de l'année 1985 paraîtra, sinon le vendredi 13 décembre, en tout cas le plus rapidement possible dès la fin des dernières réunions des Comités de décembre, et couvrira les événements au CERN des périodes des 16-23 décembre 1985 ET 6-10 janvier 1986.

Les annonces pour publication dans cette dernière édition devront parvenir à la Section Publications, ou à l'Association du Personnel (selon le cas) avant midi, le mardi 10 décembre.

END-OF-YEAR PUBLICATION OF WEEKLY BULLETIN

The final edition (no. 51/85 AND 1-2/86) of the Weekly Bulletin for 1985 will appear on Friday 13 December (or as soon as possible thereafter, so as to carry news of the December Committee Meetings), and will cover events at CERN during the periods 16-23 December 1985 AND 6-10 January 1986.

Announcements for publication in this issue should reach Publications Section or the Staff Association (as appropriate) by noon on Tuesday 10 December.