

NEW CHAIRMAN OF CUAC

Mr. M. Metcalf (DD Division) has been appointed Chairman of the Computer Users Advisory Committee with effect from 1 November 1977.

E. Lohrmann /
Member of the Directorate

SEMINARS SEMINAIRES

MONDAY 14 NOVEMBER

EP SEMINAR

at 11.00 hrs - EF Conference Room
(Lab.13-2-005)

"Hadron production by leptons"

by Dr. L.M. Sehgal / III. Physikalisches
Institut, Aachen

Abstract : Hadron production in highly inelastic lepton-induced reactions will be discussed from the standpoint of the quark-parton model.

The empirical status of the quark-fragmentation hypothesis will be reviewed. Applications of the hypothesis to neutral currents and to dilepton reactions will be described. A simple model of quark fragmentation functions will be outlined.

CERN NUCLEAR PHYSICS SEMINAR

at 16.00 hrs - Theory Conference Room

"What became of the superheavy elements?"

by S.G. Nilsson/CERN and University of
Lund, Sweden

Abstract : The heaviest element occurring in terrestrial matter is an isotope of PU (with $Z = 94$). On the other hand, elements up to proton number $Z = 106$ and neutron number $N = 158$ have been produced synthetically. The heaviest of these have half-lives in the millisecond region.

In 1968, the existence of long-lived superheavy elements was first predicted from detailed theoretical calculations. According to several authors elements with $Z = 110-114$ and $N = 184$, appear to be the best candidates for longevity outside the peninsula of known elements. The bases of such theoretical calculations are discussed in the survey as well as some past and future experimental attempts to reach this so-called "Superheavy Island".

TUESDAY 15 NOVEMBER

PRESENTATION TECHNIQUE

de 09h00 à 12h00 - Salle de conférence EF
(Bât. 13 - 2e étage - Bur.No 2-005)

SESCOSEM (F) : Conférence et démonstration sur les microprocesseurs. La maison réalise les secondes sources des familles 2900 de AMD et 6800 de Motorola, et concentre ses études dans deux directions complémentaires : amélioration des familles citées et adaptation aux besoins

européens, création de LSI d'interfaces (graphique, modem, codeur ultra rapide, industriel, généralisé).

Langue : français.

Renseignements : M. Diraison / FI / 4585

PRESENTATION TECHNIQUE

de 10h00 à 16h00 - Bus de démonstration
Parking PTT - près Bât.63

JUMO (D), spécialiste des techniques de mesures de température et de réglage expose : thermomètres en verre à contact, thermostats et régulateurs, thermomètres bimétal métalliques, enregistreurs et régulateurs électriques, enregistreurs et régulateurs électroniques.

Langues : allemand, français.

Renseignements : M. Diraison / FI / 4585

TECHNICAL PRESENTATION

from 10.00 hrs to 16.00 hrs -
Bldg.513 - Ground floor - Room No R-043

TEKTRONIX INTERNATIONAL AG (USA), will demonstrate the 4662 DIGITAL PLOTTER, a fast and high quality graphic output device with digitizing capabilities, fully compatible to their total range of graphic terminals.

Language : English.

Information : M. Diraison / FI / 4585

CERN COLLOQUIUM

at 16.30 hrs - Auditorium

"Entropy and life: What we have learned in the 100 years since Boltzmann's famous $S = k \ln W$ "

by D. Flamm / University of Vienna

Abstract : After a few historical and general remarks, the difference between the formation of a crystal and the formation of a living organism is discussed. The nature of such dissipative systems is illustrated by a muscle cell. It is shown that the operation and formation of living organisms is in full agreement with the second law of thermodynamics. Finally the evolution of life is sketched.

WEDNESDAY 16 NOVEMBER

ECFA MEETING

at 09.00 hrs - Council Chamber

Twenty-second plenary meeting

Draft agenda :

1. Adoption of the agenda (ECFA/77/25).
2. Approval of the minutes of the twenty-first plenary meeting (ECFA/77/24).
3. Chairman's report (ECFA/77/26).
4. Progress report on LEAP studies (F. Bonaudi).

5. Status report and discussion on
 - (i) Superconducting intersecting storage rings (F. Bonaudi and M. Albrow);
 - (ii) pp colliding beams in the SPS (S. Van der Meer);
 - (iii) ep colliding beams - conclusion of ECFA study week at Milton Hill House, UK (K. Johnsen).
6. Appointment of ECFA Chairman for the period 1978-1980.
7. ICFA and its working groups.
8. Application of r.f. superconductivity (A. Citron).
9. Next ECFA meeting.
10. Other business.

PRESENTATION TECHNIQUE

de 09h00 à 16h00 - Salle de conférence EF (Bât.17 - 1er étage - Bur.No 1-007)

SCHLUMBERGER (UK et F) démontre :

- a) Voltmètres numériques 7055 et 7065 permettant grâce à un microprocesseur la programmation et le traitement direct de la valeur mesurée. 7075 à temps d'intégration variable; b) centralisation de mesure, un système 'Low cost', autonome, vient compléter le bas de cette ligne de produits. Equipé pour 30 voies analogiques + 20 voies digitales, le Compact 3430, grâce à ses possibilités de linéarisation et de détection de limites, convient particulièrement bien aux mesures de tension et de température. Le périphérique (imprimante ou cassette) est incorporé dans le système. L'IMS 3510, associé à un ordinateur existant, permet l'acquisition rapide et à bas niveau de signaux en provenance de capteurs;
- c) oscilloscopes, modulaire, à mémoire;
- d) compteurs de fréquence (à microprocesseur).

Langues : allemand, anglais, français.

Renseignements : M. Diraison / FI / 4585.

THEORETICAL SEMINAR

at 14.00 hrs - Theory Conference Room

"Electromagnetic detection of gravitational waves from periodic sources"

by L.A. Radicati / Scuola Normale Superiore, Pisa

Abstract : The interaction of low frequency gravitational waves with an oscillating e.m. field is analyzed in the frame in which the detector's walls are at rest. The interaction is described in terms of a time dependent dielectric tensor and the energy transfer is derived from a generalized Poynting theorem. The energy transfer is maximum when the g.w.'s frequency matches one of the frequencies of quadrupole moment of the e.m. field. Provided the Q-value of the detector is sufficiently high, this method seems particularly suitable for observing g.w.'s emitted by periodic sources.

PRESENTATION TECHNIQUE

de 14h00 à 16h45 - Bus de démonstration Parking PTT - Bât.63

VIBRO-METER (CH) expose une gamme de capteurs et d'appareils de mesure pour les domaines :

pression, force, surcharge, déplacement, allongement, accélération, vibration, couple, puissance, plus des appareils de laboratoire.

Langues : allemand, français.

Renseignements : M. Diraison / FI / 4585.

DD SEMINAR

at 16.00 hrs - DD Conference Room (Bldg.31 - 3rd floor)

"Modern trends in large scale integrated circuits with emphasis on microprocessors"

by T. Lingjaerde / CERN-DD

Abstract : The talk will give a brief history of the integrated circuits development from a technological and economical point of view. Several examples of recent products will be given, and whenever possible, a comparison with previous devices made.

A projection into the near future will be presented, based upon manufacturers' predictions.

Finally, some remarks will be made on the way in which data processing techniques at CERN will be influenced by this rapid evolution, and which problems have to be tackled to be able to benefit from the technological progress in the semiconductor industry.

THURSDAY 17 NOVEMBER

TECHNICAL PRESENTATION

from 14.00 hrs to 17.00 hrs

Bldg.1 - Ground floor - Room No R-039

SCANDITRONIX (S) will demonstrate the Nuclear Resonance Magnetometer NMR 751. General description : NMR 751 system is designed to measure and control homogeneous magnetic fields - range of 0.1 to 2 Tesla (1 to 20 kGauss) with the outmost accuracy. The operation is based upon proton magnetic resonance in a sample. Features : Range 0.1-2 Tesla without probe change - resolution 1μ Tesla - automatic search and track - up to 3 probe inputs - digitally controlled - computer control inputs - reads in Tesla directly - can be operated 100 m from magnet - 3 m probe cable length standard - simple to use. Applications : Measurement of magnetic fields - closed loop control of magnetic field in electromagnets.

Language : English.

Information : M. Diraison / FI / 4585.

ESO ASTROPHYSICS SEMINAR

at 11.30 hrs - DD Conference Room (Bldg.31 - 3rd floor)

"Optical study of the thermal plasma contained in the Jupiter magnetosphere"

by Guido Münch / MPI-Astronomy, Heidelberg

Abstract : The physical properties and composition of the plasma observed in a torus around Jupiter, near the orbit of Io, have been inferred from ground-based spectral measurements. Hypothesis for the origins and energetics of this thermal plasma will be advanced. Implications on the interpretation of in-situ fields and particles measurements will be discussed.

FRIDAY 18 NOVEMBER

PS SEMINAR

at 10.30 hrs - Theory Conference Room

"The r.f. system of the Nevis Synchro-Cyclotron of Columbia University, N.Y."

by R. Hohbach / CERN-PS

Abstract : The Nevis SC is a 560 MeV proton machine, present intensity 2 μ A, ultimate goal 40 μ A.

The history of the Nevis SC and its present status will be reviewed briefly, while the r.f. system - using two rotating capacitors - will be discussed in more detail.

THURSDAY 24 NOVEMBER

BEBC-EMI SEMINAR

EF Conference Room

(Bldg.13 - 2nd floor - Room No 2-005)

The talks are given as an introduction for the BEBC Users within a ten day EMI (External Muon Identifier) teach-in. As they are of general interest, everybody is welcome.

At 09.00 hrs :

- External muon identifiers for bubble chambers (A. Grant).
- The EMI multiwire proportional chambers (R.A. Brown).
- The EMI read-out system (E. Chesi).

At 14.00 hrs :

- The EMI on-line software (D. Jacobs).
- The EMI off-line software (L. Pape).
- How to operate the BEBC-EMI? (H. Foeth).

CERN COMPUTER SEMINAR

at 14.00 hrs - Council Chamber

"The fast Fourier transform and some of its applications"

by Prof. P. Henrici / ETH, Zürich

CERN COLLOQUIUM

at 16.30 hrs - Auditorium

"Un nouveau développement pour le magnétisme nucléaire : le diagnostic médical in situ" *

by G.J. Béné / Université de Genève

* This Colloquium will be given in French.

TRAINING AND **EDUCATION** **ENSEIGNEMENT**

(Secrétariat : Tel. 2844)

JEUDI 17 NOVEMBRE

ENSEIGNEMENT GENERAL

de 13h00 à 13h30 - Amphithéâtre

"Science pour Tous", par R. Carreras

Thème principal : "Les grandes variations climatiques".

NOVEMBER 21, 22 AND 23

ACADEMIC TRAINING

at 11.00 hrs - Auditorium

"Neutron physics : from artificial radioactivity to fission"

by E. Amaldi / University of Rome

(For abstract, see notices and next week's Bulletin.)

WEDNESDAY 23 NOVEMBER

ACADEMIC TRAINING

at 16.30 hrs - Auditorium

"General science monthly cross-section"

by R. Carreras

INFORMATIONS **GENERALES** **GENERAL INFORMATION**

EP DIVISION SAFETY

Mr. P. Perilhon of CENG (Centre d'Etudes Nucléaires de Grenoble) will give a series of three lectures on safety in research environment on the following days in the Auditorium :

- Friday, 18 November at 10 a.m. :
"How and why accidents happen";
- Monday, 28 November at 3 p.m. :
"Responsibility";
- Monday, 5 December at 3 p.m. :
"Risk analysis".

Although originally intended for EP staff, these lectures are open to everybody. They will be given in French with simultaneous English translation.

M. P. Perilhon du CENG (Centre d'Etudes Nucléaires de Grenoble) présentera un cycle de trois conférences sur la sécurité des activités dans le contexte de la recherche, à l'amphithéâtre, les jours suivants :

- Vendredi 18 novembre à 10h00 :
"Mécanisme de l'accident";
- Lundi 28 novembre à 15h00 :
"Responsabilité";
- Lundi 5 décembre à 15h00 :
"Analyse des risques".

Bien que destinées au personnel de la Division EP, ces conférences sont ouvertes à tous. Elles sont données en langue française avec traduction simultanée en anglais.