

SEMINARS SEMINAIRES

Monday 17 December

ISOLDE COMMITTEE

Open Session

Monday 17 December
at 14.00 hrs – Council Chamber, bldg 503

1. *Introductory remarks* (B. Jonson)
2. *Status of Booster-ISOLDE Project* (D. Simon)
3. *Moving of the ISOLDE Separators* (E. Kugler)
4. *ISOLDE Running 1990* (H. Haas)
5. *Recent Target-Ion Source Developments* (H. Ravn)
6. *Requests for Off-Line running 1991:*
 - a) *IS130 High precision direct mass determination* (H.J. Kluge); (IP-09 Add. 1)
 - b) *IS80/84 Collinear laser spectroscopy* (R. Neugart); (IP-35 Add. 1)
 - c) *IS270 Microscopical studies of structural and electronic properties of semiconductors* (D. Forkel); (IP-56 Add. 2)
 - d) *IS31 Radioactive ions for surface characterization* (H. Haas); (IP-33 Add. 1)
7. *Any other business*

Closed Session

Tuesday 18 December
at 09.00 hrs – DG Conference Room,
bldg 60, 6th floor

Monday 17 December

SPECIAL COLLOQUIUM

LECTURES BY THE NOBEL LAUREATES 1990

at 16.00 hrs – Auditorium

Welcome address

by Carlo RUBBIA / Director-General, CERN

Deep inelastic scattering : the early years

by R. TAYLOR

Deep inelastic scattering : experiments on the proton and the observation of scaling

by H.W. KENDALL

Deep inelastic scattering : comparisons with the quark model

by J.I. FRIEDMAN

Mardi 18 janvier

PRESENTATION TECHNIQUE

à 09.00 h et à 10.30 h – bât. 865, salle 1-D17

S. a r.l. Eliostar (F) propose une démonstration de la facilité d'utilisation du COPRAX (polypropylène) en installation, transformation et entretien de tuyauteries, tubes et raccords. Le COPRAX, fabriqué en Italie par EPB Prandelli S.p.A. est un excellent isolant thermique et phonique. C'est un produit léger, hygiénique, sans dépôt calcaire, résistant à la corrosion électro-chimique, excluant les courants vagabonds, résistant aux hautes pressions, ayant une faible perte de charge, etc.

Langue : français

Renseignements : M. Diraison / FI / 4585

Tuesday 18 December

CN TECHNICAL PRESENTATION

at 10.00 hrs – CN Auditorium
bldg 31/3-005

IBM Fortran compiler technology for the RS/6000

by Bill HAY / IBM Toronto

Language: English

Organizer: C.Parkman / CN

Tuesday 18 December

TIS SEMINAR

at 14.30 hrs – PE Auditorium (Techn. Training)
bldg 593, Room 11

New Safety Regulations applied to research establishments in Britain and EEC Directives

by Eric HARTLEY / Safety Officer, Rutherford
Appleton Laboratory

Under legislation which came into effect in 1975, all places of work including Research Establishments and Universities were brought in under the general requirements of the Health and Safety at Work, etc. More and more legislation is now based on EEC Directives and the Regulations have returned to more specific requirements. The presentation will indicate the wide range of 'safety' legislation which now applies to research establishments. It will include case histories and examples of the actual changes. The difficulties and the amount of effort required in preparation, training and documentation to try to ensure the implementation of these legal requirements will be emphasized. It will also ask two questions :

- 1) *Is all this effort beneficial to research and the research workers ?*
- 2) *Are all EEC research establishments adopting the same approach to these common Directives ?*

Mercredi 19 décembre

SEMINAIRE PS

à 11.00 h – Amphithéâtre PS
bât. 6/2-024

Compensation de la charge de faisceau dans les cavités du PS au moyen de contre-réaction avec un retard d'un tour machine

par F. BLAS & R. GAROBY / CERN-PS

Pour les besoins du faisceau de production d'anti-protons destiné à la cible du AC, le PS ne contient de protons que dans une moitié de sa circonférence, l'autre moitié étant vide de particules. La charge de faisceau périodique qui en résulte développe sur les cavités une tension perturbatrice qui dégrade le résultat. C'est pourquoi un projet a été lancé début 90, avec pour objectif de réduire l'impédance de chaque cavité RF sur 2×3 harmoniques de la fréquence de révolution de part et d'autre de la fréquence d'accord de la cavité. Une division par 4 de la tension induite par le faisceau en était attendue. Ce projet est basé sur une contre-réaction avec retard d'un tour ('one turn delay feedback'), comme déjà expérimenté au SPS dans un autre contexte. Ce dispositif couvre une large gamme de fréquence, du fait de l'accélération des particules (15%) et de la plage quasi-continue de variation du nombre harmonique ($h=10$ à $h=20$). La réalisation est essentiellement en technologie digitale rapide (ECL). L'ensemble est en opération depuis début septembre 90. La conception globale du système, ainsi que celle des différentes fonctions, sont décrites. Les performances observées sont présentées.

Friday 11 January*

CN SEMINAR

at 09.00 hrs* – CN Auditorium,
bldg 31/3-005

Hardware Description Languages

by G. SAUCIER & M. CRASTES / CSI Lab., INPG
Grenoble

Morning :	09.00	Introduction to HDLS
	10.00	VHDL Overview
Afternoon :	14.00	HDLs and Synthesis
	15.45	HDLs and Tests
	16.00	WAVES and Design for Testability
	17.15	Future Trends – Conclusion

Hardware Description Languages have now proved to be mandatory for the design and validation steps of ICs. This seminar will introduce the basic notions such as modeling levels and will define the application domains of HDLS. Existing HDLS will be presented (Verilog, HDDL, ...) and, of course, VHDL. Special attention will be paid to VHDL Std (IEEE 1076-1987). Details will be given on its historical background (DoD, VHDL 7.2, rebalot in 92, ...) and a complete technical presentation will be made using examples. The second part of the seminar will introduce the state of the art in the fields of synthesis and testing using specifications expressed in HDLS. The automatic synthesis of controllers from VHDL models will be described. Information on the

WAVES standard for test vector exchange among CAE tools and Automatic Test Equipment will be given. As a conclusion, future trends involving HDLS will be discussed, including Software Procedural Interface and Formal verification of behavioral models.

Prof. G. Saucier is director of the INPG/CSI Lab. (Grenoble, France). Dr M. Crastes, member of the CNRS, is mainly interested in HDLS and is participating to the European Esprit Project ECIP2 on the definition of a specification language at the requirement level.

* Please note unusual day & time

Friday 11 January

CAS ACCELERATOR SEMINAR

at 14.00 hrs – Council Chamber

Plasma accelerators for satellites and space stations

by Ernst MESSERSCHMID / Institute for Space
Systems (IRS), Stuttgart University

After a short introduction into the basic principles of rocket propulsion, the various kinds of electric thrusters, typical missions and limitations are presented. Plasma accelerators have a higher exhaust velocity of the gases as compared to chemical thrusters. Due to the small thrust-to-weight ratio, however, the use of plasma accelerators is limited to upper stages of rockets, drag compensation of space stations and orbital control of satellites. The theoretical models and computer codes to investigate the plasma accelerators as well as some experimental results are briefly described. Futuristic acceleration principles for space vehicles are also addressed.

Friday 11 January

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room

Cosmic rays hint at beyond the Standard Model

by G. DOMOKOS / CERN

Some point sources in the sky emit photons and neutrinos at energies which cannot be produced at accelerators of today or to be built in the near future. Observations of extensive air showers associated with those point sources indicate that the showers contain muons in excess of what can be expected within the framework of the Standard Model. We discuss the significance of these observations, together with an apparent anomaly in the absorption on the 3° K microwave background. Although the data are scarce and hence the statistical significance of the 'anomalies' is less than what one is used to in accelerator based experiments, we suggest that these hints at 'new physics' should be taken seriously and they should be further investigated.