

seminars

ISR SEMINAR

Monday, March 1st
14.30
ISR Auditorium
(Top floor of Bldg.30)

"Finite Element Method in Engineering"
by C. Hauviller

CERN TRACK CHAMBER COMMITTEE

Monday, March 1
14.00
Council Chamber

Report on Bubble Chamber Operations :
- restart of HBC 200
- technical run of BEBC (P. Reinhard).

Status Report on the Rapid Cycling Bubble Chamber Project
(L. Montanet).

Discussion on New Proposals for the HBC/DBC 200 :
- proposal to study $\bar{p}d$ interactions at 12 GeV/c
(CERN/TCC 75-27 and TCC 76-2) Strasbourg/Helsinki-Stockholm;
- proposal to study dd interactions at 14 GeV/c
(CERN/TCC 75-28/Add.1) Strasbourg

Results of the $\bar{p}p$ Formation Experiment in the 1930 MeV Mass Region (CERN/TCC 74.33, T239).

Status Report on the Aachen-Padua NUE-Spark Chamber Experiment (CERN/TCC 73-24 - 73-24a, T230) (H. Faissner - M. Baldo-Ceolin).

CERN NUCLEAR PHYSICS SEMINARS

Monday, March 1
11.00
Theory Conference Room

"Total Photonuclear Cross Sections and Sum Rules"
by B. Ziegler / Otto-Hahn-Institut, Mainz

Abstract : Total photonuclear cross sections have been measured for low atomic number elements between 10 MeV and 200 MeV photon energy. The lowest order moments of the experimental cross section distributions are compared with sum rule predictions. Values for the exchange part of nuclear forces, for RMS radii and momenta and for the static nuclear polarizability are deduced.

Monday, March 8
11.00
Theory Conference Room

"Strong Interaction Shifts and Quadrupole Splitting in Pionic Atoms of ^{175}Lu and ^{165}Ho "

by H.J. Leisi / E.T.H. Zürich and S.I.N.

Abstract : A short presentation of the experimental results on the energy levels of the $4f$ states (energy shift and quadrupole splitting) will be given. It is then shown that the measured level shift is compatible with the usual optical potential only if the neutron distribution were to deviate strongly from that of the protons.

EP SEMINARS

Monday, March 1
11.00
Council Chamber

"Unconventional Use of the SPS and Fermilab (FNAL) Rings.
Just one of those Unthinkable Ideas"
by Carlo Rubbia

Monday, March 8
11.00
Large Conference Room
(Lab.13 - 2.005)

"Analysis of the $I = 0$ S-Wave for $\pi\pi$ and $K\bar{K}$ Scattering"
by J.A. Rubio / Madrid

Abstract : New experimental results on the $I = 0$ $K\bar{K}$ system near threshold allow a detailed coupled channel analysis of the $I = 0$ S-wave system. The interpretation of the ϵ , S^* , ϵ' as genuine resonances is reexamined.

SPECIAL NUCLEAR PHYSICS SEMINAR

Friday, March 5
14.00
Theory Conference Room

"Behaviour of Nuclear Form - Factors at Large t "
by A. Rinat / Weizmann Institute

SPS EXPERIMENTS
COMMITTEE

Agenda for the Thirty-second Meeting

Tuesday and Wednesday
March 2 and 3, 1976

OPEN SESSION on Tuesday, March 2 at 9.00, Auditorium

1. Proposal to Study pp-Interactions in BEBC below 100 GeV/c.
(Pavia-Torino Collaboration; G. Rinaudo; SPSC/76-18/P28/Add.1)
2. Proposal to Study K^-p -Interactions in BEBC at 70 GeV/c
(Glasgow-Paris-RHEL-Saclay Collaboration; R. Barloutaud;
SPSC/75-2/P38).
3. A Proposal to Expose BEBC to the K^- Beam with the Highest
Available Momentum (i.e. ~ 110 GeV/c). (Aachen-Berlin-
CERN-Cracow-Imperial College-Vienna-Warsaw Collaboration;
P.J. Dornan; SPSC/75-86/P57).
4. A Proposal to Study High Energy $K_L^0 p$ -Interactions in BEBC.
(Cambridge-Imperial College Collaboration; T.C. Bacon;
SPSC/76-11/P60).
5. Study of 70 GeV/c K^+p -Interactions in BEBC with an EPI.
(Brussels-CERN-Genova-Mons-Nijmegen-Serpukhov-Tel Aviv
Collaboration; R.T. van de Walle; SPSC/76-15/P62).
6. Study of $\bar{p}p$ -Interactions at 70 GeV/c in BEBC (Brussels-
Helsinki-Liverpool-Mons-Stockholm Collaboration; N. Yamdagni;
SPSC/76-16/P63).
7. Experiment to Investigate Direct Lepton Production in
 π^-p -Interactions using BEBC Equipped with a Large TST.
(Glasgow-RHEL-Saclay-Torino Collaboration, G. Kalmus;
SPSC/76-19/P64).
8. Prompt Lepton Production in $\bar{p}p$ -Interactions at High Energies
in BEBC Equipped with the a TST (Brussels-Liverpool-Mons-
Stockholm Collaboration; J. Lemonne; SPSC/76-20/P65).

LUNCH BREAK

9. Beam Dump Experiment in Omega (Birmingham-CERN-Neuchâtel-
RHEL Collaboration; contact man: P. Sonderegger;
speaker: D. Perrin; SPSC/76-14/P61).
10. Addendum to SPS Experiment WA4: A Charm Search Using the
Tagged Photon Beam at the CERN-SPS Omega Facility (Bonn-
CERN-Daresbury-DESY-Ecole Polytechnique-Glasgow-Lancaster-
Manchester-Orsay-Sheffield Collaboration; spokesman: J. Litt;
speaker: F. Richard; SPSC/76-17/P10/Add.1).

CLOSED SESSION on Wednesday, March 3 at 9.00, Conference
Room, 6th floor, Administration Building.

14.30 p.m. A visit of the SPS and the West Area will be organized
for SPSC members.

CERN COMPUTER SEMINAR

Friday, March 5
14.15
Council Chamber

"New Methods for Image Processing Using LSI Arrays"
by Dr. M.J.B. Duff / University College London

CERN PARTICLE PHYSICS SEMINAR

Monday, March 8
16.30
Auditorium

"Scale Breaking in the W_1 Structure Function of the Proton and Neutron"
by W.B. Atwood / SLAC

SC SEMINAR

Tuesday, March 9
11.00
Council Chamber

"News from Saclay, Experiments at Intermediate Energy with the Electron Linac and the Proton Synchrotron"
by Ph. Catillon / CEN-Saclay

Abstract : - Charge and magnetization densities from elastic electron scattering,
- Neutron density from elastic proton scattering,
- Photoproduction of pions at threshold and in the resonance region,
- Quasi-elastic (e,e'p) experiment,
- Pick-up experiment (p,d) at 600 MeV,
- Pion-nucleus interaction at low energy.

SCC MEETING

Tuesday, March 9
14.00
Council Chamber

Please note that this meeting will take place exceptionally at 14.00 hours.

CERN COLLOQUIUM

Tuesday, March 9
16.30
Auditorium

"Classical Directional Effects for Swift Charged Particles in Crystals"

by J. Lindhard / Aarhus University

Abstract : A survey is given of the theory of directional effects in single crystals for swift positive particles, relativistic or non-relativistic. Complete shadow effects may be obtained within distances $\sim 10^{-9}$ cm of atomic rows and for angles less than

$$\psi_1 = \sqrt{4Z_1 Z_2 e^2 / d \cdot p \cdot v} \text{ , where } p \text{ and } v \text{ are momentum and}$$

velocity of the incoming particle, and d the spacing of atoms in the row. The effects are rather stable because multiple scattering is very much reduced. The strong shadow and the simplicity of the theory is due to classical mechanics being applicable as a good approximation.

For negative particles the classical directional effects are much smaller and rather unstable. Still, negative particles may be caught in the potential wells of atomic rows. It is easy to distinguish between negative and positive particles if the crystal is used as a detector.

HIGH ENERGY PHYSICS FOR THE OTHERS

A new seminar series will be started on an experimental basis by L. Van Hove, Research Director-General, with the aim of presenting in non-specialized terms the main results of CERN research and their place in the overall development of high energy physics.

The lectures are intended for an audience without high energy physics background and it will be attempted to make them understandable at least partly to complete laymen. Time will be reserved for questions and the suggestions of the audience will be taken into account for later lectures.

Friday, March 12
16.30
Auditorium

The first lecture will be on :
"Results and efforts in the search for new particles"
by L. Van Hove

TECHNICAL PRESENTATION

Thursday, March 4
10.00 - 12.00
EP Conference Room
(Bldg. 13 - 2nd floor)

Language : English

Ferranti UK (Digital Systems Division) will give a talk on
Printed Circuit Techniques :

1. Design principles for standard multi-layer printed-circuit boards.
2. High-density design and manufacture for complex multi-layer boards.
3. Some aspects of processing high-density boards.
4. Quality assessment of production boards.
5. Future trends to miniaturisation.

Information :
M. Diraison / FI / 4585

enseignement

ACADEMIC TRAINING

Wednesday, March 3
Thursday, March 4
Friday, March 5
11.00
Auditorium

"Introduction to quantum electrodynamics"
by E. de Rafael / CNRS-Marseille

next week :

March 9 & 10
11.00
Auditorium

"The g-2 of the muon"
by E. Picasso

Abstract : For over fifteen years a group of experimental physicists at CERN have been devising ways to measure the anomalous magnetic moment of the muon with higher and higher accuracy. A brief introduction is given to the theory of the anomalous magnetic moment and its significance is explained. After some historical preliminaries the main burden of the lectures concerns an analysis of the muon experiments, with particular attention to the latest one now in progress at the PS. Other properties of the muon such as its electric dipole moment and the lifetime will be discussed.

The lectures are intended for young physicists working in all fields of physics.

Note : It will help to have followed the lectures on "Introduction to quantum electrodynamics" by E. de Rafael.

ENSEIGNEMENT GENERAL

Jeudi 4 mars
13.00 à 13.30
Amphithéâtre

Science pour Tous, par R. Carreras
Programme (pour détails, voir affiches)

1. Vu, lu et entendu.
2. Question : Il y a des substances que les moustiques sont incapables de sentir (ou même de détecter) et qui pourtant sont utilisées pour se protéger de ces insectes. Comment agissent-elles ?
3. Thème principal : "Jonction neuro-musculaire et auto-immunité".

cern information

STAFF INSURANCE SCHEME :
Elections

This is to remind members who receive voting papers that information on the candidates for election will be appearing in next week's Bulletin. Voting closes on 10 March at midday.

CAISSE D'ASSURANCES :
Elections

L'Administration de la Caisse vous rappelle que des informations sur les candidats qui se présentent aux élections paraîtront dans le Bulletin de la semaine prochaine. Dernier délai pour voter : le 10 mars à midi.