

with recent $O(\alpha_s^3)$ QCD calculations. From the higher order contributions an estimate of the coupling constant α_s is obtained. Our earlier measurements of beauty mixing have been improved. We have also searched for specific rare beauty decays. The first observation of the beauty baryon λ_b in the decay channel $\lambda_b \rightarrow J/\psi \lambda$ will be reported.

* Tea and coffee will be served at 16.00 hrs.

Thursday 23 January

CERN COLLOQUIUM

at 16.30 hrs – Auditorium*

Inertial Fusion : A possible contribution of Accelerator Technology to the World's Energy problem ?

by Carlo RUBBIA/CERN

With the exception of thermo-nuclear explosions, high power Lasers have been so far the almost unique tool for bringing matter to high temperatures and densities. A remarkable amount of work has been carried out in this field which has permitted to highlight an exceedingly exciting field of physics and rich of applications. Most important, but not the only ones, are the contributions to the energy problem through the possibility of inertially confined fusion.

I would like to take this opportunity to elaborate on the possible contributions of particle accelerators as drivers to bring matter to such extreme conditions. The idea to make use of heavy ions to heat up matter is an old idea dating back to the mid-sixties. But the tremendous progress in particle accelerators in recent years, which has permitted the realization of beam-beam colliders of extraordinary performances, has important fall-outs also in this field. There is today an enormous amount of new developments and expertise in the field of elementary particle physics accelerators. This could lead to important fall-outs in other domains, including inertial confinement.

An accelerated beam of high energy heavy ions could be used to produce extremely hot filaments which in turn could emit intense radiation in the 200-500 eV temperature range. Heating matter with beams, which is considered as a great inconvenience in particle accelerators, can therefore become an extremely powerful research tool with the help of dedicated machines. The first pioneering step in this field is now possible by the operation of the dedicated accelerator complex SIS/ESR in Darmstadt.

Matter at high temperature and density becomes radiation dominated. For instance the radiation of 500 eV Stefan-Boltzmann black radiator has a flux of 10^{16} watts/cm and it exercises an ablative pressure of the order of 10^8 bars. This radiation in turn becomes a most powerful tool for instance in order to ensure the implosion of small pellets, the so-called indirect drive.

In my presentation I shall try to look at the future and delineate a number of conceptual progresses which could further extend the already important possibilities of the SIS/ESR programme, one step closer to the ultimate goals of practical applications, for instance in the field of energy production.

* Tea & coffee will be served at 16.00 hrs.

FOR INFORMATION / POUR INFORMATION

LAPP

Laboratoire d'Annecy de Physique des Particules

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Tél. 50 23 32 45

Vendredi 17 janvier

LAPP SEMINAR

à 10.45 h – Amphithéâtre LAPP

Atomes refroidis par laser dans le domaine du microKelvin : quelques applications

par C. SALOMON / Laboratoire de Spectroscopie
Hertzienne de l'Ecole Normale Supérieure
(PARIS)

Information : Sylvie LEES-ROSIER, LAPP / ext. 328 /
SROSIER@FRCPN11

TRAINING AND EDUCATION ENSEIGNEMENT

ENSEIGNEMENT GENERAL

Tél. 5811

Jeudi 16 janvier

à 13.00 h – Amphithéâtre
Science pour tous
par Rafel CARRERAS

ACADEMIC TRAINING

Tel. 2844

Lectures series for postgraduate students

13, 15, 20, 22 & 24 January

11.00–12.00 hrs – Auditorium
Particle Detectors
by H.J. HILKE / CERN-PPE

* Please note change of dates

SERVICES EDUCATIFS / EDUCATION SERVICES

Cours de Langues / Language courses

Secretariat : 3127

(Après-midis seulement / Afternoons only)

COURS REGULIERS/REGULAR COURSES

ANGLAIS-FRANCAIS

Les inscriptions à ces cours sont ouvertes dès maintenant pour le deuxième trimestre 91-92 : (du 27 janvier au 3 avril).

Ces cours s'adressent à toute personne travaillant au CERN ainsi qu'aux conjoints.

Pour toute information, veuillez contacter Mme Benz ou Mme Fontbonne, tél. 3127; M. Liptow, tél. 2957.

ENGLISH-FRENCH

Registration for second term's language courses : (from 27 January to 3 April).

These courses are open to all persons working on the CERN site and to their spouses.

For all information, please contact Mrs Benz or Mrs Fontbonne, tel. 3127; Mr Liptow, tel. 2957.

OPTIONAL COURSES

FRENCH WRITTEN COURSES

We will open new French written courses next term (27 January-3 April). These courses are designed for non-French speakers with a good standard of spoken French. A test will be needed to establish your level.

Level 1 : (2hrs/week) spelling and grammar exercises, dictation of letters.

Price : 350,-SwFr.

Level 2 : (3hrs/week) spelling and grammar, dictation and drafting of letters.

Price : 500,-SwFr.

Level 3 : (3hrs/week) spelling and grammar (depending on need), improvement of style, drafting of letters, memos and working documents.

Price : 500,-SwFr.

Refresher course (after level 3) : (2hrs/week) drafting of letters, memos, working documents and proofreading.

Price : 350,-SwFr.

Detailed information sheets are available at the Language Courses Secretariat (BLdg 54 - R001).

ASSISTED SELF-TEACHING

These courses are designed for those with basic French who cannot attend regular courses and who want courses tailored to their individual needs.

Those wishing to participate will be invited for an interview so that their needs and objectives can be discussed and evaluated. After which, a programme will be made available (books, audio and video cassettes, computer disks, language laboratory).

These courses will last three months. During this time four sessions of private tuition will be provided.

Price : 350,-SwFr.

For more detailed information, please contact Moniek Laurent (tel. 3128 - Tuesday/Wednesday mornings).

Pour vous inscrire, veuillez compléter un formulaire de "Demande de Formation" que vous pouvez obtenir auprès de votre secrétariat de division ou au "Bureau des Utilisateurs" (bât. 61/R-020).

To enrol, you should fill in an "Application for Training" form which may be obtained from your Divisional Secretariat or the "Users Office" (bldg 61/R-020).



ENSEIGNEMENT TECHNIQUE
TECHNICAL TRAINING

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Cours Techniques

APPLICATION DE LA RADIO-FREQUENCE AUX ACCELERATEURS

W. Pirkl / PS

R. Garoby / PS

Du 10 au 14 février - de 9 h.00 à 12 h.00

Ce cours s'adresse aux techniciens et ingénieurs qui souhaitent se familiariser avec les concepts de la radio-fréquence appliquées aux accélérateurs.

Les sujets traités seront les suivants :

- Les paramètres relativistes
- Le plan de phase longitudinal
- Le poisson et le paquet
- Les systèmes à cavités multiples
- La charge du faisceau
- Instabilité de Robinson
- Usage exotique de la RF : les manipulations du faisceau

Une contribution financière de CHF 500,- sera demandée aux divisions

Les personnes qui désirent s'inscrire sont priées d'utiliser une formule "Demande de formation" disponible auprès des Secretariats de Division et des DTO.