

ACADEMIC TRAINING

Tel. 3127

LECTURE SERIES

21, 22, 23, 24 & 25 March

11.00 to 12.00 hrs – Auditorium

Cosmology and the Origin of Structure

by R. BRANDENBERGER / Brown Uni., Providence, USA

With the recent discovery of anisotropies in the cosmic microwave background and with improved deeper redshift

surveys, cosmology has entered a new era as a quantitative science. In these lectures, an introduction to modern cosmology will be given, focusing in particular on theories of the origin of structure in the universe. The lectures will begin with an overview of the successes and problems of standard big bang cosmology. The Inflationary Universe scenario (discussed next in the lectures) provides a solution to some of the main problems of standard cosmology. It will be shown how inflation gives rise to a mechanism producing structure in the universe. Alternative models of structure formation based on topological defects such as cosmic strings which form during a phase transition in the very early universe will be discussed.

PLAN DE FORMATION CERN 1994

Le Plan de Formation 1994 établi par la Commission Paritaire de Formation et de Perfectionnement a été approuvé par le Directoire le 14 février 1994. Ce document comprend les commentaires du Directeur général et les recommandations pour 1994.

Tous les chefs de groupe et chefs de section recevront un exemplaire de ce document (disponible en français et en anglais) par l'intermédiaire du délégué à la formation de leur division.

Toute personne intéressée peut obtenir une copie :

- auprès des secrétariats de Division
- en téléphonant aux Services Educatifs, 8144 ou 3674 (le matin).

Les textes seront bientôt disponibles sur un serveur. Des informations détaillées seront publiées dès que possible.

1994 CERN TRAINING PLAN

The 1994 CERN Training Plan, prepared by the Joint Training Board, was approved by the Directorate on 14 February 1994. The final text is now available, including the comments by the Director-General as well as the recommendations for 1994.

Copies of this document (which is available in English and in French) are being distributed to all group and section leaders via their Divisional Training Officer.

Anyone interested may obtain a copy :

- at your Divisional Secretariat
- from Education Services, 8144 or 3674 (mornings only).

The texts will shortly be available on a server. Further information will be published in due course.

INFORMATIONS GENERALES GENERAL INFORMATION

Mise à jour d'un document de sécurité TIS

RÈGLES DE SÉCURITÉ POUR L'UTILISATION DES LASERS AU CERN (IS 22 REV)

Les lasers peuvent produire un rayonnement qui peut être dangereux pour les yeux et la peau et les risques d'incendie ou d'explosion ne doivent pas non plus être sous-estimés. Les chapitres du document traitent de la classification des lasers, basée sur la recommandation de la Commission électrotechnique internationale, les limites d'exposition, les précautions à prendre, la signalisation à observer.

Le document IS 22 Rev. est disponible auprès des secrétariats de Division, des DSO, ou au secrétariat TIS/DI.

Secrétariat TIS/DI

Updating of TIS safety document

RULES FOR THE SAFE USE OF LASERS AT CERN (IS 22 REV)

Lasers can produce radiation which may be hazardous to the human eye and skin, and the risks of fire or explosion should neither be under-estimated. This document deals with the classification of lasers (based on the recommendation of the International Electrotechnical Commission), exposure limits, precautions to be taken, warning labels and notices to observe.

Document IS 22 Rev. is available at Divisional Secretariats, DSO's or TIS/DI secretariat.

TIS/DI Secretariat

THE SCIENCE AND SOCIETY JOURNAL CLUB

will have a seminar on

Recent Global Ozone Changes

by R. D. BOJKOV

World Meteorological Organisation, Geneva and Atmospheric Environmental Service, Toronto

The seminar will take place on

Wednesday 16 March at 18.00 hrs – bldg 32/1-A24

The analysis of the long-term course of the total ozone measured at the WMO Global Ozone Observing System (GO3OS) during the past 35 years shows ozone decline over the polar and middle latitudes since the early 1970s. After accounting for known natural variability, the cumulative ozone decline is about 10 per cent, during the past 25 years. The decline is much stronger during Northern winter-spring and especially over the Antarctic in spring. The drastic decline of the atmospheric ozone over Antarctica during the austral-springs since late 1970s is evidence of the antropogenic influence. The surface covered by the hole has been expanding, reaching approximately 24 million km² during September/October 1992 and 1993. The record low ozone values of below 100 ozone units were registered during few days in October 1993. This represents nearly 70 percent depletion compared to the pre-ozone-hole (1957-78) values of 330-350 units. During late September and through October, in the 14-20 km layer, 95 per cent of the ozone has been destroyed.

In the Northern hemisphere also during the past two winter-spring seasons the lowest ever ozone levels were registered. In particular during the January-March 1993 20-25 percent drop in ozone values (below the long term averages) were observed for prolonged periods (and up to 40 per cent in several days) over North America, entire Europe and over Siberia. However, due to basic atmospheric circulation differences, there is no Arctic ozone hole analogical to this in the Antarctic.

During the 1993/94 winter the total ozone over the middle latitudes of Northern hemisphere is close to normal. Part of the ozone deficiency of the previous two years could be attributed to specifics of the atmospheric circulation related to the westerly phase of the tropical stratospheric winds (Quasi-biennial Oscillation – QBO) and the El-Nino phenomena. However, there are observational evidences of substantial ozone destruction related to the presence of anthropogenic ClO. In contrast to the decline of the stratospheric ozone, the ozone in the troposphere (ground to 10 km) did increase in the Northern hemisphere due to atmospheric pollution. Its increase during the 1970s and the 1980s could not compensate for the losses in the stratosphere, but recent studies have shown that this increase could make contribution to the greenhouse effect – surface warming of nearly equal to the effect of the other greenhouse gases during the same period.

For the first time observational data from the last five years at Ushuaia (Tierra del Fuego, Argentina) and Toronto (Canada) have documented the theoretical expectation that the ozone decline is causing measurable increase in ultra-violet radiation reaching the ground.

Since the free chlorine concentrations are due still to increase in the stratosphere until the end of this century, one should expect similar, or stronger, ozone deficiencies to be observed during the coming decade, and thus compliance to the strengthened Montreal Protocol provisions is a must for everybody.

A TOUS LES MEMBRES DU PERSONNEL

POSTES TEMPORAIRES

Pendant la période de mi-juin à mi-septembre 1994, le CERN disposera d'un nombre limité de postes temporaires (en général pour des travaux non-qualifiés et de routine) qu'il peut offrir à des enfants de membres du personnel (c'est-à-dire à toute personne en possession d'un contrat du CERN). Les candidats doivent avoir au moins 18 ans et au maximum 24 ans au premier jour du contrat. **En raison du nombre limité de postes disponibles, il ne sera pas possible de considérer les candidatures des enfants ayant déjà travaillé au CERN dans le cadre de ce programme.** La durée de l'engagement est de 4 semaines, l'allocation étant de CHF 1441,- net pour cette période.

Les formulaires de candidature peuvent être obtenus chez Paula CASTANHEIRA, Service des Ressources Humaines (en utilisant le talon ci-dessous ou par courrier électronique PCAS@CERNVM). Les demandes d'engagement, dûment remplies, doivent parvenir à ce service **le 22 avril au plus tard**. Les résultats de la sélection seront connus le 2 mai et chaque candidat en sera informé par courrier.



*Veillez me faire parvenir une demande d'engagement
"Postes temporaires pour les enfants des membres du personnel"*

Nom

Division