

SEMINARS SEMINAIRES

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For information on these seminars, please see
<http://wwwas.cern.ch/Bulletin/Seminars/current.html>

Monday 15 June

COSMOLOGY MEETING

at 14.00 hrs – TH Conference Room, bld. 4

Small-scale anisotropy of the CMB and scattering by a cloudy plasma

by Roman JUSZKIEWICZ / Copernicus Astronomical Centre, Poland

If the first stars formed soon after decoupling of baryons from the thermal cosmic background radiation (CBR), the radiation may have been last scattered in a cloudy plasma. We discuss the resulting small-scale anisotropy of the CBR in the limit where the plasma clouds are small compared to the mean distance between clouds along a line of sight. This complements the perturbative analysis valid for mildly nonlinear departures from homogeneity at last scattering. We conclude that reasonable choices for the cloud parameters imply CBR anisotropy consistent with the present experimental limits, in agreement with the perturbative approach. This means the remarkable isotropy of the CBR need not contradict the early small-scale structure formation predicted in some cosmogonies.

Monday 15 June

CERN HEAVY ION FORUM

at 15.30 hrs – ECP Conference Room, bld. 13/2-005

Dilepton Production in Nucleus-Nucleus Collisions from SIS to LHC Energies: Probing Hot and Dense Matter

by P. BRAUN-MUNZIGER / GSI

We will briefly review results from recent dilepton experiments with emphasis on the physics of the continuum. This will lead to a discussion of the prospects of the new experiments at the SIS and SPS accelerators and to results of a detailed investigation of the potential for dielectron physics in the ALICE experiment at the LHC.

Information <http://wwwinfo.cern.ch/a/alicedoc/www/chic/>
Organisers: Y. Foka and C. Lourenço

Monday 15 June

CERN EP SEMINAR

at 16.30 hrs – Auditorium, bld. 500*

Some recent developments in parton distribution fits

by Joey HUSTON / Michigan State University

The impact of recent data from CDF, D0, E706, E866 and HERA on parton distribution fits is discussed. The uncertainty in the gluon distribution and in the gluon-gluon and gluon-quark luminosities are examined for both the Tevatron and LHC. A detailed discussion of the inclusion of soft gluon (kt) effects in hard scattering processes is given.

* Tea & coffee will be served at 16.00 hrs

Mardi 16 juin

PRÉSENTATION TECHNIQUE

09.00-12.00 h & 14.00-16.00 h – BUS/Parking bât. 252

Transair et système de raccordement à connexion instantané

par P. ANTONELLO / Legris AG Bienne

Spécialiste mondial des connexions industrielles en basse pression, Legris SA intervient partout où des circuits de fluides commandent, alimentent ou refroidissent des machines ou équipements.

Connexions instantanées pour air comprimé, pour liquides et gaz, pour ambiances et fluides corrosifs, tubes tuyaux techniques, robinetterie basse, moyenne et haute pression: les gammes de produits Legris répondent aux attentes industrielles du monde entier

•Système TRANSAIR® instantanément monte, immédiatement modifié. Ce nouveau concept de la distribution d'air comprimé ne pouvait naître que d'une analyse fine du marché des réseaux d'air et d'une totale maîtrise de la connexion instantanée. Des composants – connexions, brides de dérivation et robinets – à montage immédiat, démontables, interchangeables et réutilisables, sont au coeur de cette innovation. Raccordés en un seul geste au tube calibré aluminium TRANSAIR®, ils assurent instantanément la mise en pression de vos réseaux d'air comprimé.

Langues : français, allemand, italien, anglais

Information : S.Shearer / SPL-PS / 76360

Mardi 16 juin

PRÉSENTATION TECHNIQUE

09.00-12.00 h – BUS/Parking bât. 252

PRODUITS BOSCH – Profilés aluminium, places du travail

par Reto DECKER/New Ingenia

Connu du monde entier pour ces produits de haute qualité, BOSCH sera sur le site du CERN pour vous présenter les avantages des constructions en profilés aluminium. Qu'ils soient destinés à la réalisation de bâtis, de cabines de protection, d'unités de déplacement ou de chariots de transport.

La gamme est complétée par une large palette de liaisons démontables, un vaste programme de guides linéaires ainsi que les multiples accessoires permettent des solutions rapides et simples pour une production effective.

Langue : français

Information : S.Shearer/ SPL-PS / 76360

Tuesday 16 June

TECHNICAL PRESENTATION

at 10.00 hrs – IT Auditorium, bld. 31/3-004-5

True SXGA projection with the new JVC

ILA (Image Light Amplifier) projector

by S. GALATA / Audio-Visuel BT S.A. &

Mr HELOU / JVC Switzerland

Audio-Visuel will demonstrate the new JVC ILA (Image Light Amplifier) projection system which will project true SXGA (1,280X1,024) colour images without compression. This projector contains many new innovations such as Adaptive Digital Pixel Conversion which insures that you get a smooth picture projection no matter what the input resolution, and has a light output of 1,000 ANSI Lumens from a user replaceable Xenon lamp. The projector also has an RS232 serial port enabling it to be controlled directly from a computer.

Organiser : S. Cannon / IT / 75036

Tuesday 16 June

DUALITY WORKSHOP

at 14.00 hrs – TH Conference Room, bld. 4

Brane intersections, anti-deSitter space-times and dual superconformal theories

by K. SKENDERIS / Leuven University

We construct a class of intersecting brane solutions with horizon geometries of the form $adS_k \times S^l \times S^m \times E^n$. We describe how all these solutions are connected through the addition of a wave and/or monopoles. All solutions exhibit supersymmetry enhancement near the horizon. Furthermore we argue that string theory on these spaces is dual to specific superconformal field theories in two dimensions whose symmetry algebra in all cases contains the large $N = 4$ algebra A_γ . Implications for gauged supergravities are also discussed.

Tuesday 16 June

IT TRAINING TUTORIAL

14.00-16.00 hrs – IT Auditorium, bld. 31/3-004

Basic Concepts in Object Oriented Programming

by Raul RAMOS POLLAN / CERN-IT

This tutorial presents a simple explanation of the fundamental ideas behind the so-called Object Oriented Paradigm. With a general approach, it will provide you with the basic understanding to be able to think OO and learn OO languages and techniques. Aspects like maintenance and reuse of code, quality, and large projects design and implementation will be discussed within the OO framework, and some of the reasons behind such benefits will be outlined. The talk will be general enough not to require any previous knowledge of any programming language but some insight in software development would be convenient. In the same way, the talk will give you the basics to learn any OO based methodology or language.

This is a repetition of the presentation given on February 13th.

Information: <http://wwwinfo.cern.ch/support/training>

Organisers: M.Marquina and R.Ramos /IT-User Support

Wednesday 17 June

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room, bld. 4

Pre-Big Bang inflation as gravitational collapse

by Gabriele VENEZIANO / CERN-TH

By relating inflation in string cosmology to gravitational collapse in general relativity, I will argue that an efficient pre-Big Bang scenario generically emerges from the gravitational instability of perturbative string vacua.

Wednesday 17 June

PS SEMINAR

at 11.00 hrs – PS Auditorium, bld. 6/2-024

Review of PS Contributions to EPAC'98

Oral presentations start from 11.00 hrs onwards.

Posters will be on display from 9.00 a.m. to 4.00 p.m. in the PS Large Conference Room (bldg 6 2-004).

Organiser: Dieter Möhl/PS

Thursday 18 June

THURSDAY SEMINAR

at 14.00 hrs – TH Conference Room, bld. 4

Low-energy gravitino interactions

by F. FERUGLIO / CERN & Univ. Padova

Some recent results on the effective interactions of a light gravitino with ordinary particles are reviewed. In particular, the low-energy behaviour of electron-positron and photon-photon annihilation into gravitinos are carefully discussed, and a new "low-energy theorem" is established in the electron-positron case. These results are applied to derive model independent bounds on the supersymmetry breaking scale and to organize the search for a superlight gravitino at high-energy colliders.

Thursday 18 June

CERN COLLOQUIUM

at 16.30 hrs – Auditorium, bld. 500*

High precision determination of the fine structure constant as test of quantum mechanics

by Toichiro KINOSHITA / Cornell University

The fine structure constant α has been measured very precisely (few parts in 10^8 or better) based on various physics. Some are based on well-known methods such as quantum Hall effect, AC Josephson effect, electron g-2, muonium hyperfine structure, and Helium atom fine structure. However, some new methods are now available such as those based on neutron de Broglie wavelength, atom interferometry, and single electron tunnelling. These diverse α can be compared with each other because they are based on the same physics, i.e., quantum mechanics. This enables us to obtain a quantifiable measure of success of quantum mechanics (in a generalized sense).

Organiser : Luigi Di Lella / EP Division

** Tea & coffee will be served at 16.00 hrs.*

Vendredi 19 juin

PRESENTATION DE MATERIEL ELECTRIQUE

de 08.30 à 12.00 h – Parking du bâtiment 904

Matériel de construction électrique

Société SAREL

Dans un "DEMOBUS" seront présentés différents types de matériel et notamment:

- armoire monobloc SPACIAL 16500
- pupitre de commande
- groupe de refroidissement
- coffrets INOX
- coffrets CEM
- appareillage étanche MUREVA
- accessoires divers pour installations électriques.

Présentation : Iannis ODDOS

Langue : français

Friday 19 June

IT TRAINING TUTORIAL

10.00-12.00 hrs – IT Auditorium, bld. 31/3-004

Accessing UNIX Services from a PC

by Miguel MARQUINA / CERN-IT

PCs may be used to work on all centrally provided services and not only in the NICE environment. You may use them as X-terminals through the use of special connectivity software such as `_Exceed_` (currently recommended at CERN). This tutorial is intended as an introduction to the use of `_Exceed_`, presenting its basic configuration options and tips to follow on both the PC and UNIX sides. Attention will also be given to the way to interact and exchange information between the two worlds.

The presentation is aimed to novice PC users who require to work as well on UNIX Services such as CERN-SP or HPPLUS; only basic understanding on how to set a PC application or the use of connectivity applications such as "telnet" will be expected.

Information: <http://wwwinfo.cern.ch/support/training>

Organisers: M.Marquina and R.Ramos /IT-User Support

Friday 19 June

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room, bld. 4

Applications of effective field theories to positronium and ponium

by Patrick LABELLE / McGill University

Effective field theories (eft) are especially well suited to the study of non-relativistic bound states since they permit to disentangle the contributions of high momenta and low momenta physics. The eft corresponding to QED, Non-Relativistic QED (NRQED) will be briefly described. I will then discuss recent applications of NRQED to the study of the positronium spectrum and decay rate. I will also discuss ionium, the $\pi^+\pi^-$ bound state. This system has generated a great deal of interest recently because of the possibility of extracting the quark condensate parameter of ChPT from a planned experiment at CERN (DIRAC project). I will discuss recent applications of the eft approach to ponium, and future prospects.

Monday 22 June

DETECTOR SEMINAR

at 11.00 hrs – Conference room, bld 13/2-005.

The HERA-B RICH

by Peter KRIŽAN / Ljubljana University & J. STEFAN / Institute, Slovenia

The Status of the RICH counter for the HERA-B experiment will be reviewed. The counter aims at identifying pions and kaons in the momentum range 3-70 GeV/c by observing the Cherenkov photons emitted in a C_4F_{10} gaseous radiator. Its photon detector uses a novel light collection system based on Hamamatsu multianode photo-tubes and a demagnification system constructed with plastic lenses transparent to UV radiation. The HERA-B RICH is presently under commissioning. Results of test measurements and commissioning runs will also be presented.

Monday 22 June

TECHNICAL PRESENTATION

at 14.00 hrs – IT Auditorium, bld. 31/3-004-5

Patrol Outil de supervision et administration centralisées

par Francois WIELAND / Presales Consultant (Suisse Romande) & Carlos MORENO / Branch Manager (Suisse Romande)

Organiser : S. Cannon / IT / 75036

Monday* 22 June

CERN COLLOQUIUM

at 16.30 hrs – Auditorium, bld. 500**

The manipulation of atoms and bio-molecules by laser light

by Steven CHU / Stanford University; 1997 Nobel Laureate in Physics

A brief history of the laser cooling and trapping of atoms developed over the past 15 years will be presented. The cooling and trapping technology is already being applied in numerous areas of science and engineering. Applications to be discussed include atomic clocks, atom interferometers, as well as studies in polymer dynamics and protein motion.

The talk also includes a video tape of DNA molecules being moved with optical tweezers.

Organisers : Luigi Di Lella & Luigi Rolandi / CERN-EP

* Please note unusual day.

** Tea & coffee will be served at 16.00 hrs.

Tuesday 23 June

TECHNICAL PRESENTATION

at 10.00 hrs – IT Auditorium, bld. 31/3-004-5

Electromagnetic Analysis Software with Ansoft Tools

by F. HIRTENFELDER & C. BEHRLE / Ansoft Corp.

Ansoft Corporation develops and markets EDA software. Ansoft EM for electromagnetic and electromechanical applications, Ansoft SI for high-speed applications, and Ansoft HF for high-frequency applications.

The EM product family is a comprehensive set of 2D and 3D design tools that calculate electric and magnetic fields by the finite element method. Solutions can be DC, AC, or in the time domain. Critical system design parameters such as force, torque, and inductance are instantly available for scrutiny.

Ansoft SI software analyzes the degradation in signal integrity in high-speed electronics devices and systems that results from higher clock speeds and smaller physical dimensions. The schematic capture and circuit simulation tools allow system designers to study the effect of connectors, cables, and packages on system performance.

The HF products are used by engineers in the design of high performance electrical devices and systems such as cellular phones, mobile and satellite communications systems, pagers, and antennas.

Currently the SI family is available at CERN and it is used for signal integrity, detector design and RF.

Agenda:

- 10.00 Welcome / Company Overview
- 10.15 Software-products and applications
- 11.15 Coffee break
- 11.30 EM - Software tools and demonstrations
- 12.30 CERN application: "Some examples of Field Calculations for gaseous detectors" By Archana Sharma (EP/IO)
- 12.45 Lunch
- 14.00 SI - Software tools and demonstrations
- 15.00 HF - Software tools and demonstrations
- 16.00 Open discussion

Organiser : S. Cannon / IT / 75036

Mardi 23 juin

PRESENTATION/DEMONSTRATION

de 13.30 à 17.30 h – Amphithéâtre LHC, bât. 30, 7e ét.

Formation technique Xilinx

Avnet EMG

par Gilles BENZONI / Ingénieur d'application

La société AVNET EMG (distributeur XILINX FRANCE) nous propose une demi-journée de formation dédiée à l'utilisation de l'outil XILINX M1. Cette formation permettra à chaque participant de se familiariser avec le flow de conception M1 à l'aide de plusieurs exemples et d'apprendre à tirer le meilleur des possibilités du compilateur.

- Introduction
 - Rappel général sur le flow M1
 - Utilisation du "design manager"
- Utilisation des contraintes
- Options de MAP et PAR
- Amélioration des timings
- Conclusion

Informations : P. Baehler/IT/75016), S. Brobecker/IT/78693

Langue : français

Tuesday 23 June

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs — Auditorium, bld. 500*

The TARC experiment : a simple physics concept contributing to the elimination of nuclear waste

by Jean-Pierre REVOL / CERN-EP

The TARC experiment (CERN PS211) is a direct test of the

concept of Adiabatic Resonance Crossing (ARC) put forward by Carlo Rubbia: spallation neutrons produced and moderated in a large lead assembly have a high probability to be captured at the energies of cross-section resonances in Long-Lived Fission Fragments (LLFF) such as ⁹⁹Tc, ¹²⁹I, etc. LLFF are thus efficiently transmuted into short-lived or stable elements. ARC tests and the study of the phenomenology of spallation neutrons in lead will be presented, as well as future prospects, including possibilities of extending the method to industrial and medical applications.

Organiser : Jasper Kirkby / EP Division

* Tea & coffee will be served at 16.00 hrs.

Wednesday 24 June

COMPUTING SEMINAR

at 16.00 hrs – IT Auditorium, bld. 31/3-005

Volumetric Display Systems - Present and Future Developments

by B. BLUNDELL / American University of Sharjah, New Zealand

Volumetric display systems are able to depict images within a physical volume and therefore some of the major depth cues such as binocular and motion parallax are automatically satisfied. The operation of a swept volume volumetric display known as the Cathode Ray Sphere will be described. This system will be used to provide a basis for discussion upon the limitations of various volumetric technologies. The development of display systems which are, in principle, able to operate at higher levels of performance will be considered and suggestions made concerning the manner in which high definition systems may be implemented.

Information : <http://consult.cern.ch/seminars>

Organiser : G.Folger / IT

Vendredi 26 juin

PRESENTATION

à 10.00 h – Salle du Conseil, bât 503

Présentation du BHT-Web

par l'équipe BHT / AS-SU

Si vous êtes responsable d'un budget CERN ou d'un Compte Team, vous devriez utiliser BHT-Web. BHT-Web est une version (basée sur le web) des fonctions les plus utilisées dans le Budget Holder's Toolkit. Elle vous permettra d'interroger et de suivre vos dépenses à tous les niveaux. Avec BHT-Web, vous pouvez visualiser les transactions détaillées, les dépenses magasins, le détail des dépenses pour le téléphone et également interroger le système au niveau des Demandes d'Achat (DAI) et des commandes.

Vos rapports préférés sont automatiquement stockés et vous pouvez exporter les résultats dans Excel.

Format : Une vue d'ensemble des directives stratégiques d'AS-SU pour exporter leurs applications sur le web, suivie d'une démonstration du logiciel BHT-Web.

Durée : 1 heure

Langues : français (présentation), anglais, français (réponses)

Friday 26 June

COMPUTING COLLOQUIUM

at 14.00 hrs – Council Chamber, bld. 503

**Storage Management for High Energy Physics
analysis applications**

by Arie SHOSHANI / National Energy Research
Scientific Computing (NERSC) Division Lawrence
Berkeley National Laboratory, Berkeley, California

(Details at: <http://www.lbl.gov/~arie/>)

In this talk I will describe the design, architecture and progress of the Storage Management component of the High Energy and Nuclear Physics Grand Challenge (HENP-GC) project at LBNL. This component addresses the problem of efficient organization of the event data stored on tertiary storage in order to minimize the number of tape mounts and files accessed when subsets of the events are requested. The design is based on partitioning the events into cells defined over bins in the property space of the events. Some of the topics that will be discussed are: the design and implementation of a clustering analyzer (which analyzes clustering properties of the events in a high-dimensional space), theoretical results on the optimal file size, bit-sliced indexing methods over the binning space, and support for caching policies of files for multiple possibly overlapping

queries. We will also discuss the effects of using HPSS as the mass storage system and Objectivity as the application object manager on the Storage Management system.

Friday 26 June

CERN HEAVY ION FORUM

at 14.30 hrs – Conference Room 40-S2-B01

**Dilepton and Photon Production from Hot
and Dense Hadron Gas in Heavy Ion Collisions**

by Andrei LEONIDOV / Lebedev Physics Institute

The dilepton and photon production in heavy ion collisions at SPS energies is considered within a hydrodynamical model. We specifically analyze the rate of photon and dilepton production from a hot and dense hadron gas used in these calculations and derive restrictions on these rates from parton-hadron duality arguments. We show that the currently used hadron lagrangians lead to underestimation of the dilepton production from a hadron gas and to a gross overestimation of the photon production from it. The dilepton and photon production from QGP and hadron phases are compared.

Information: <http://wwwinfo.cern.ch/a/alicedoc/www/chic/>
Organisers: Y. Foka and C. Lourenco

**EDUCATION
SERVICES
EDUCATIFS**



Information sur les cours, dates et places disponibles sur WWW:
Information about the courses, dates and places available on WWW :
<http://www.cern.ch/Training/>

**ENSEIGNEMENT TECHNIQUE
TECHNICAL TRAINING**

Monique Duval ☎ 74460
monique.duval@cern.ch

**PLACES DISPONIBLES
PLACES AVAILABLE**

Plusieurs cours prévus peuvent encore accueillir quelques participants. Vous les trouverez dans la liste ci-dessous.

Some places are still available in forthcoming courses. These courses are indicated underneath.

Introduction to Eudora mail - 1 morning	19.6.98
Introduction à Eudora mail - 1 matinée	22.6.98
Introduction to PowerPoint (E) - 1 day	29.6.98
Sécurité industrielle - 3 jours	30.6 -2.7.98
Introduction à Eudora mail - 1 matinée	6.7.98
Nouveautés de FileMaker Pro - 3 demi-journées	14-16.7.98
Transport de matières dangereuses - 1/2 journée	17.6.98
Flammable Gas Safety - 1 day	25.6.98

Si vous désirez participer à l'un de ces cours, inscrivez-vous électroniquement en direct depuis les pages de description des cours dans le Web que vous trouvez à l'adresse : <http://www.cern.ch/Training/>, ou remplissez une "demande de formation" disponible auprès du Secrétariat de votre Division ou de votre DTO (Délégué divisionnaire à la formation). Les places seront attribuées dans l'ordre de réception des inscriptions.

If you wish to participate in one of these courses, please apply electronically directly from the course description pages that can be found on the Web at : <http://www.cern.ch/Training/> or fill in an "application for training" form available from your Divisional Secretariat or from your DTO (Divisional Training Officer). Applications will be accepted in the order of their receipt.