

SEMINARS SEMINAIRES

Wednesday 24 August

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

Cosmic microwave background anisotropies and the geometry of the universe

by Marc KAMIONKOWSKI / IAS, Princeton

A variety of complementary experiments are currently being pursued or developed in an effort to measure the cosmic microwave background (CMB) anisotropies at all angular scales. In this talk, I will review some of the theoretical expectations for the CMB spectrum, and I will discuss whether such measurements can be used to determine the geometry of the Universe.

Friday 26 August

MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

at 14.00 hrs – TH Conference Room

The CKM matrix element V_{ts} from exclusive D and B decays using perturbative QCD and heavy quark symmetry

by Paul GRIFFIN / University of Florida HET group

Heavy quark symmetry and perturbative QCD are combined to study the heavy meson - light vector meson transitions involved in D and rare B decays. Heavy quark symmetry relates the measured $D \rightarrow 1$ nu vector and axial-vector form factors to the $B \rightarrow K^*$ gamma tensor and axial-tensor form factors. Perturbative QCD is used to run the D-meson form factors to $q^2 = 0$ of the B system. This gives the CKM matrix element $V_{ts} = 0.026$ with 23% experimental uncertainty, and 27% theoretical uncertainty from higher order QCD effects and violations of heavy quark symmetry. Recent inclusive $b \rightarrow s \gamma$ CLEO data is combined with D data to study further the tensor form factor F_L .

Monday 29 August

PPE SEMINAR

at 16.30 hrs – Auditorium

The search for $K^+ \rightarrow \pi^+ \nu \bar{\nu}$: new results on rare kaon decays from BNL E-787

by André S. TURCOT / TRIUMF

The search for the rare decay $K^+ \rightarrow \pi^+ \nu \bar{\nu}$ performed at Brookhaven National Laboratory using the E-787 Spectrometer is described. Based on the 1989-1991 data set, an upper limit (preliminary) for the $K^+ \rightarrow \pi^+ \nu \bar{\nu}$ branching ratio of 3.0×10^{-9} at the 90% confidence level has been set. For the two-body decay $K^+ \rightarrow \pi^+ X^0$, where X^0 is a hypothetical massless weakly interacting particle, a 9% C.L. upper limit of 6.1×10^{-10} has been obtained. The experiment also searches for other rare kaon decays. For the decay channel $K^+ \rightarrow \pi^+ \mu^+ \mu^-$, a preliminary result for the branching ratio of $(4.7 \pm 1.3 \pm 1.4) \times 10^{-8}$ has been set. This represents the first observation of this decay mode.

Tuesday 30 August

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium*

Selected topics of B physics at LEP

by Wilbur VENUS / RAL and DELPHI

* Tea & coffee will be served at 16.00 hrs

Thursday 1 September

DETECTOR R & D COMMITTEE

Open session

at 09.00 hrs – Council Chamber

1. Introductory remarks.
2. RD-2 Status Report: Study of a tracking/preshower detector for the LHC (Bern–Cambridge–CERN–Dortmund–Geneva–Hamburg–Melbourne–Moscow–Oslo–Oxford–Perugia–RAL–Saclay CEN; DRDC 94-34; G. Taylor).
3. RD-8 Progress Information: Development of GaAs detectors for physics at the LHC (RWTH Aachen–ANSTO Sydney–Bologna–CERN–Florence–Freiburg–Glasgow–Lancaster–RAL–Sheffield; K.M. Smith).
4. RD-9 Status Report: A demonstrator analog signal processing circuit in a radiation hard SOI-CMOS technology (CERN; DRDC 94-31; E.H.M. Heijne).
5. RD-29 Progress Information: A mixed analog-digital radiation hard technology for high energy physics electronics: DMILL (DAPNIA Saclay–CEA DTA LETI Grenoble–CEA Bruyeres le Chatel–IN2P3 Marseille–TMS Thomson Grenoble; M. Dentan).
6. Proposal: GEANT 4: an Object-Oriented toolkit for simulation in HEP (Wisconsin–Orsay–CERN–Bari–RWTH Aachen–CMS Saclay–Fukui–KEK Tsukuba–KFKI Budapest–ICU Mitaka–LAPP Annecy–LBL–Lawrence Livermore Nat. Lab.–Lebedev Phys. Inst. Moscow–Naruto–Cambridge–IHEP Serpukhov–Hawaii–Manchester; DRDC 94-29/P58; S. Giani).
7. Proposal: A persistent object manager for HEP (NA49–CERN CN–OPAL–LBL; DRDC 94-30/P59; J. Shiers).

Closed session

Thursday 1 September following the Open Session continuing on Friday 2 September at 09.00 hrs, 6th floor Conference Room