

SEMINARS SEMINAIRES

Monday 18 July

EP SEMINAR

at 16.30 hrs – Auditorium

The 7th Proton-antiproton Collider Physics Workshop

by Sten HELLMAN / CERN

The Seventh Topical Workshop on Proton-antiproton Collider Physics was held at Fermilab 20-24 June 1988. The speaker will summarize a selection of the contributions to the Workshop.

Wednesday 20 July

PS SEMINAR

at 11.00 hrs – PS Auditorium
bldg 6, 2-024

Particle acceleration by superposition of frequency-controlled laser pulses

by Heinrich HORA / University of New South Wales

As the energies of particle accelerators are extended to the TeV range and beyond, the decrease of interaction cross-sections with increasing energy will require that luminosities be increased. This will increase the cost of conventional accelerators, and has prompted an examination of alternative designs, incorporating very-high intensity lasers. One example is the beat-wave accelerator, in which a longitudinal resonance field produced in a plasma by the beating of two laser beams can accelerate electrons by $\sim 1 \text{ GeV}^{-1}$. Unfortunately, this and other types of laser accelerators involving plasma encounter problems such as instabilities, self-focusing, de-tuning and the appearance of internal electric fields and double layers, which appear to limit the energy to a few MeV. To overcome these difficulties, here a laser accelerator system is proposed that does not require a plasma, in which charged particles are accelerated by non-linear forces towards minima in a field created by two electro-optical modulation of the frequency and/or phase of the beams. With very high laser powers, electrons from conventional accelerators could be further accelerated by as much as 600 GeV cm^{-1} .

Wednesday 20 July

THEORETICAL SEMINAR

at 14.00 hrs – Theory Conference Room

Quark effects in nuclei

by Fan Wang / Nanjing University & UCLA

1. Introduction
2. Hadron and quark description of nuclei – the hidden colour channel problem
3. Quark exchange effects and nucleon size

4. From baryon to hypernuclei spin-orbit splitting
5. Quark exchange effects in the charge dependent hadron interactions
6. Quark delocalization effects and dibaryon.

Thursday 21 July

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium*

Rare K decays at Brookhaven

by R. K. ADAIR / Yale/Brookhaven

We know that nuclear beta decays with characteristic energies of a few MeV – ‘rare’ decays with a very small transition rate – reveal the existence and properties of the W with a mass greater than 50 GeV. In the same spirit, at Brookhaven we are examining K-decays, rarer than W-mediated decays by factors of the order 10^{10} , to probe mass scales greater than 50 TeV. The programme will be described.

* Tea & coffee will be served at 16.00 hrs.

Monday 25 July

EP SEMINAR

at 16.30 hrs – Auditorium

Low temperature detectors for neutrinos and dark matter

by L. GONZALEZ-MESTRES / LAPP, Annecy

Low temperature devices have recently been proposed for the study of solar neutrinos and double beta decays, neutrino mass measurements, and in the search for cold dark matter or magnetic monopoles. Some cryogenic detectors (cosmic axions, monopoles) are already operating, but most of them are still at the level of feasibility studies. After briefly reviewing the physics motivation, we describe the proposed techniques and report on the status of present developments.

Tuesday 26 July

SPECIAL THEORETICAL SEMINARS

at 11.00 hrs – place to be announced

Two-dimensional quantum gravity

at 15.00 hrs – place to be announced

Scale dependence statistics of particles

by A. M. POLYAKOV / Landau Institute, Moscow

- These seminars will take place in France. Exact location to be announced in next week’s Bulletin.
- Bus transportation will be provided from CERN I to the seminar conference room. More information next week.