

Wednesday 20 October

THEORETICAL SEMINAR

at 14.00 hrs - TH Conf. Room
Vacuum stability in gauged extended supergravity

by P. BREITENLOHNER / Werner-Heisenberg-Institut, MPI Munich

Extended supergravity theories with N greater than or equal to 4 contain scalar fields. If the $SO(N)$ group is gauged the potential for these scalars is unbounded from below. Background configurations (classical solutions of the field equations) occur at maxima or saddle points of this potential. These configurations are stable in the sense that any localized fluctuation has positive energy (relative to the background).

CERN COMPUTER SEMINAR

at 16.00 hrs - Council Chamber*

Algebraic computation for all

by Anthony C. HEARN / The Rand Corporation, Santa Monica

Although algebraic computation programs have been in existence for over twenty years, their limitation to large, expensive main-frame computers has tended to restrict their use. The emergence of relatively cheap computers with large address spaces is beginning to broaden the appeal of such programs, and renew interest in their design and application. In this talk we shall consider the general capabilities of the present-day software, and determine how well matched it is to the emerging personal systems. In particular, the role of algebraic computation in the design of a personal scientific workstation will be considered.

Dr. Hearn will be at CERN from Monday 18 to Wednesday 20 October. If you wish to meet him, contact S. Kölbig at 4121.

On Tuesday 19 at 16.00 hrs, in the DD Auditorium, bldg. 31 on the 3rd fl., he will present the new version of REDUCE.

*Tea and coffee will be served before the seminar at 15.30 hrs.

Mercredi 27 Octobre

COMITÉ PROJET LEP

SÉANCE OUVERTE

à 14.30 h - Amphithéâtre des ISR, bât 30, 7e ét.

Infrastructure et transports pour l'installation du LEP

par G. BACHY / CERN

TRAINING AND EDUCATION ENSEIGNEMENT

ENSEIGNEMENT GENERAL

Tél. 2844

Jeudi 21 Octobre

de 13.00 h à 13.30 h - Amphithéâtre

Science pour tous

par R. CARRERAS

Il n'y aura pas de séance le 28 Octobre car l'Amphithéâtre n'est pas libre.

Prochaine séance : Jeudi 4 Novembre

ACADEMIC TRAINING

Tel. 2844

Thursday 21 October and Friday 22 October

at 10.30 hrs - Auditorium

Permanent magnet technology

by W. BARAN / Krupp Institute, Essen

Theory of permanent magnet state.

Permanent magnet materials, manufacturing processes and properties : hard ferrites, AlNiCo, rare earth metal-cobalt (RECo), other.

Design of permanent magnet circuits : conventional, analytical and numerical methods.

Typical permanent magnet circuits and applications, with emphasis on RECo-devices in particle optics.

Monday 25 October to Friday 29 October

at 11.00 hrs - Auditorium

Quantum processes in black holes and cosmology

by P.C.W. DAVIES / Newcastle Univ.

Though a satisfactory theory of quantum gravity remains elusive, there has been a growing realisation that a semiclassical theory, in which quantum fields interact with a classical background gravitational field, can predict meaningful and important new phenomena.

Among these are particle creation by black holes (the so-called Hawking effect) and in the early stages of the big bang. There are also peculiar 'vacuum' effects such as the inducement of negative energy by certain gravitational fields and/or spacetime topologies, and the generation of a cosmic repulsion contribution to gravity.

These lectures will provide an introduction to the basic concepts of the semiclassical theory and summarise some of the more important applications to black hole astrophysics and cosmology.