

Thursday 11 March

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium

Recent results from searches for rare kaon decays

by Koral LANG / University of Texas, Austin
Texas

FOR/POUR INFORMATION

Université de Genève

**Département de Physique Nucléaire et
Corpusculaire**

Ecole de Physique
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1211 Genève 4
Tél. 7026273 ou 7026369

Monday 8 March

PARTICLE PHYSICS SEMINAR

at 16.15 hrs – Room 202, Pavillon Sciences I

First results from the H1 detector at HERA

by Stephan EGLI / University of Zurich

In July 1992, the H1 Detector started to take data at HERA, the first electron proton collider ever built. Results from the first run period in July 1992 with an integrated luminosity of 2 nb^{-1} and preliminary results from the September–October run period with 15 times higher statistics will be presented. The following topics will be addressed: total γ -p cross section measurement at centre of mass energies of 200 GeV, analysis of hadronic final states in quasireal interactions of photons with protons, deep inelastic scattering for $Q^2 > 5 \text{ GeV}^2$ and x down to 10^{-4} , hadronic final states in deep inelastic scattering and search for new particles.

EDUCATION SERVICES EDUCATIFS

**LECTURE SERIES FOR
POSTGRADUATE STUDENTS**

1, 2, 3, 4 & 5 March

10.30 to 12.00 hrs – Auditorium

Introduction to particle accelerators

by E.J.N. WILSON / CERN-SL

Lectures 6 to 10

**LECTURE SERIES FOR
ACADEMIC TRAINING**

8, 9, 10 & 11 March

11.00 to 12.00 hrs – Auditorium

Physics and mathematics for medical imaging

by D. TOWNSEND / Hôpital Cantonal, Geneva

In the two decades since the introduction of the X-ray scanner into radiology, medical imaging techniques have become widely established as essential tools in the diagnosis of disease. As a consequence of recent technological and mathematical

advances, the non-invasive, three-dimensional imaging of internal organs such as the brain and the heart is now possible, not only for anatomical investigations using X-rays but also for studies which explore the functional status of the body using positron-emitting radioisotopes. This series of lectures will review the physical basis of medical imaging techniques which use X-rays, gamma and positron emitting radioisotopes and nuclear magnetic resonance. Mathematical methods which enable three-dimensional distributions to be reconstructed from projection data acquired by radiation detectors suitably positioned around the patient will be described in detail. The lectures will trace the development of medical imaging from simple radiographs to the present-day non-invasive measurement of in vivo biochemistry. Powerful techniques to correlate anatomy and function that are currently under development will also be presented. The lectures are aimed at non-specialists with a scientific background and the different methods will be extensively illustrated with appropriate examples of medical images.

ENSEIGNEMENT GÉNÉRAL

Tél. 5811

Jeudi 3 mars

à 13.00 h – Amphithéâtre

Science pour tous

par Rafel CARRERAS