

THURSDAY 2 APRIL

CERN COLLOQUIUM

at 16.30 hrs - Auditorium *)

"Atomic Hydrogen and Deuterium : New Quantum Gases"

by I. F. Silvera / Natuurkundig Laboratorium der Univ. van Amsterdam

Abstract : Atomic hydrogen (H) has recently been created in a long-lived state referred to as spin-polarized atomic hydrogen ($H\uparrow$). A moderate density gas ($n \lesssim 10^{17}$ atoms/cc) has been produced at temperatures $T \approx 400$ mK. $H\uparrow$ is predicted to be the only atomic substance that remains gaseous to $T = 0$ K; current experiments are consistent with this picture. Since the $H\uparrow$ atoms behave as composite bosons the gas is expected to have a Bose-Einstein condensation (BEC) and related superfluidity at a sufficiently high density or low temperature. Atomic deuterium, $D\uparrow$, is a Fermi gas and is expected to have observable transitions into a superfluid state, analogous to ^3He , at densities of order 10^{21} atoms/cc; current maximum densities are of order 10^{14} atoms/cc. Experimental techniques used to stabilize $H\uparrow$ and $D\uparrow$ shall be discussed as well as measurements of the magnetic equation of state, pressure of the gas, and the adsorption energy on ^4He surfaces. Current limits on density appear to arise from condensation on the helium covered cell walls followed by recombination. Experimental determination of this as well as possible solutions to this fundamental problem shall also be presented.

*) Note : Those attending this colloquium are cordially invited to the Salle des Pas Perdus (just outside the Council Chamber) at 16.00 hrs to meet the speaker and for informal discussions. Tea and coffee will be provided.

MONDAY 6 APRIL

ISR SEMINAR

at 14.30 hrs - ISR Auditorium
(Top floor of Building 30)

"Reliability and Performance Requirements of Power Supplies for the ISR Based on Ten Years' Operational Experience"

by S. Oliver / CERN-ISR

WEDNESDAY 8 APRIL

DD SEMINAR

at 16.00 hrs - DD Auditorium
(Building 31, third floor)

"Outline of the CASUAL Project : A Language Processor"

by E. Pagiola / CERN-EP

THURSDAY 9 APRIL

PS SEMINAR

at 16.00 hrs - PS Auditorium
(Building 6)

"KEK-PS and TRISTAN"

by Prof. K. Endo / KEK

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs - Auditorium

"Measuring the Charges of QCD Jets"

by M. Teper / DESY

TRAINING AND EDUCATION ENSEIGNEMENT

MONDAY 30, TUESDAY 31* MARCH
WEDNESDAY 1, THURSDAY 2 AND FRIDAY 3 APRIL

ACADEMIC TRAINING

(Tel. 2844)

at 11.00 hrs - Auditorium

(*) Council Chamber on 31 March

"Introduction to the Electro-Weak Interactions for Engineers and Applied Physicists"

by W. Nahm / CERN

Lectures 1 to 5. (For abstract, see last week's Bulletin and notices.)

JEUDI 2 AVRIL

ENSEIGNEMENT GENERAL

(Tél. 2844)

13h00/13h30 - Amphithéâtre

"Science pour Tous"

par R. Carreras

APRIL 6, 7, 8, 9* AND 10

ACADEMIC TRAINING

(Tel. 2844)

at 11.00 hrs - Auditorium

(*) Council Chamber on 9 April

"Introduction to the Electro-Weak Interactions for Engineers and Applied Physicists"

by W. Nahm / CERN

Lectures 6 to 10.