

Attention
Salle inhabituelle !

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First results from XENON10 at the Gran Sasso Underground Lab and Status of XENON100

The XENON experiment aims at the direct detection of weakly interacting massive particles (WIMPs) via their elastic scattering on xenon nuclei, using a very sensitive, low background, two-phase time projection chamber. With 1-ton of ultra pure liquid xenon as target, an energy threshold below 10 keV and a rejection power better than 99.5%, the XENON sensitivity reach is close to $10\text{--}46\text{ cm}^2$ for spin-independent WIMP-nucleon cross section. To verify the XENON approach to dark matter detection, a first prototype (XENON10) was developed and operated for a period of several months at the Gran Sasso Underground Laboratory in Italy. XENON10 data have resulted in a 90% C.L. upper limit of $8.8 \times 10\text{--}44\text{ cm}^2$ for a 100 GeV WIMP. Plans to improve this sensitivity by an order of magnitude are underway, with the commissioning of a new detector with 150 kg total mass within the recently approved XENON100 phase. The status of the new experiment will be presented.

Lundi 12 novembre 2007 à 15 heures

Salle 311, bât. 123

Le café sera servi 15 minutes avant

NB : La présentation d'une carte d'identité ou d'un passeport est exigée à l'entrée du centre. Tous les auditeurs extérieurs sont priés de prévenir à l'avance de leur visite Emilie Chancriin, tél. 01 69 08 23 50 (U.E. : délai de 24 h, hors U.E. : délai de 4 jours).