Irfu
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Séminaire SPP

Lundi 08/02/2016, 11h00

CEA-Saclay Bat 141, salle André Berthelot

Search for Low-Mass Dark Matter with the CRESST Experiment

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The CRESST (Cryogenic Rare Event Search with Superconducting Thermometers) experiment aims at the direct detection of WIMPs. In summer 2013 a new Dark Matter run has been started with a total target mass of 5kg. With respect to previous measuring campaigns the intrinsic radiopurity of CaWO4 crystals and the capability to reject recoil vents from alpha surface contamination has been significantly improved. We analysed the first data acquired by two CaWO4 detectors which combine an unprecedented background level with a trigger threshold as low as 300eV. In this talk, we present a new detector design and the results of a low-threshold analysis which set stringent limits for the spin-independent WIMP-nucleon cross section, in particular for low-mass WIMPs. The status of the currently ongoing preparations towards the next phase of CRESST and the strategy beyond will be discussed.

Le café sera servi 10 minutes avant.

NB : La présentation d'une pièce d'identité est exigée à l'entrée du centre. Tous les auditeurs extérieurs sont priés de prévenir à l'avance Martine Oger, tél. 01 69 08 23 50, e-mail : `martine.oger@cea.fr`. (U.E. : délai de 24 h, hors U.E. : délai de 4 jours).