



Irfu

Institut de recherche
sur les lois fondamentales
de l'Univers

**Séminaire
SPP**

Mercredi 14/09/2016, 11h30

CEA-Saclay Bât. 141, salle André Berthelot

The PandaX Experiment and Recent Results from PandaX-II

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The particle physics nature of the dark matter and neutrinos are top unknowns in modern physics. The Particle and Astrophysical Xenon (PandaX) project is a series of xenon-based ultralow background experiments in the China Jinping Underground Laboratory (CJPL) targeting these big questions. The first and second stage experiments (PandaX-I and II) both utilize dual-phase xenon time-projection chamber (TPC) to carry out direct search for the dark matter particles. PandaX-II, a half-ton scale experiment, is currently under operation, and has recently produced world-leading limits to dark matter-nucleon scattering cross section. The upgrade to a multi-ton experiment is being planned in parallel. PandaX-III, currently under preparation as well, will employ a gaseous xenon TPC with 200 kg of ^{136}Xe target to search for the neutrinoless double beta decay.

In this talk, I shall present an overview of the full project, the latest results from the first 99-day run of PandaX-II, and future prospects.

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).