Irfu
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sur les lois fondamentales
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Séminaire SPP

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CEA-Saclay Bât. 141, salle André Berthelot

Clues to the identity of the dark matter in our local neighbourhood

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The "Lambda cold dark matter" (LCDM) cosmological model is one of the great achievements in Physics of the past thirty years. Theoretical predictions formulated in the 1980s turned out to agree remarkably well with measurements, peformed decades later, of the galaxy distribution and the temperature structure of the microwave background radiation. Yet, these successes do not inform us directly about the nature of the dark matter. Indeed, there are competing (and controversial) claims that the dark matter might have already been discovered, either through the annihilation of cold, or the decay of warm, dark matter particles. In astrophysics the identity of the dark matter manifests itself clearly in the properties of dwarf galaxies, such as the satellites of the Milky Way. I will discuss predictions from cosmological simulations assuming cold and warm (in the form of sterile neutrinos) dark matter and show how astronomical observations can, in principle, distinguish between the two.

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).